

**INTERPERSONAL BASES OF SOCIAL POWER:  
Antecedents and Consequences**

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By  
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to the  
Department of Humanities and Social Sciences  
**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**

DECEMBER, 1998

**Dedicated to  
my Husband  
&  
Son**

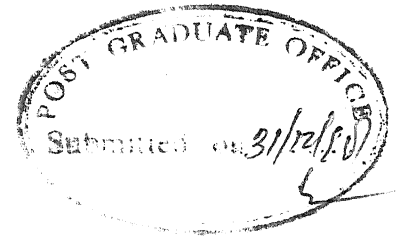
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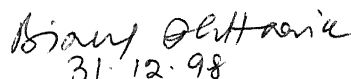
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## SYNOPSIS

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The present work is an attempt to examine how supervisors try to get their way with their subordinates through the use of different bases of power. Power, here, has been described as the ability to influence others. It is considered to be an essential feature of managers' role. It is speculated that without some degree of power, managers or supervisors would find it very difficult to direct the efforts of their subordinates. Work group effectiveness is considered to be dependent upon the bases of power which supervisors use.

Review of literature done for the present study indicated some gaps in the studies examining the bases of power. The modifications made in the original classification of bases of power (French and Raven, 1959) by Raven (1992, 1993) pointed out the need to operationalise the expanded power/interaction model of interpersonal influence. There is a paucity of research examining the relative importance of various antecedent variables on the use of bases of power. Research work examining the effectiveness of bases of power in terms of its consequences has investigated the direct effect of different bases of power on different consequences. Earlier researchers have given little attention to the contingency conditions, which determine the effectiveness of power acquisition and use by supervisor.

On the basis of review of literature following objectives were identified for the study: (1) to examine the bases of power adopted by supervisors to get compliance from their subordinates by developing a psychometrically sound multidimensional measures of bases of power; (2) to examine the role of antecedents variables influencing the use of bases of power; (3) to examine the effect of bases of power on different outcome variables; and (4) to examine the role of antecedent variables on the relationship between bases of power and outcome variables. To examine these objectives 18 hypotheses were formulated for empirical investigation on the basis of review of literature. It was further speculated that effectiveness of different bases of power used by a supervisor also depends on the aspects of the situation in which interaction between supervisor and subordinate takes place. This was an exploratory issue in the present research.

On the basis of objectives the model was proposed to indicate the relationships and interactions between bases of power their antecedents and consequences. The model was explored by conducting a survey as well as an experiment on some aspects of power in order to have more confidence in findings by obtaining converging evidence. The survey was conducted in 19 organisations, which could be categorised into four types based on the public/private and service/manufacturing combinations. Altogether 462 executives belonging to low, middle and top levels of management voluntarily participated in the study.

The survey employed a questionnaire involving a number of measures to assess the bases of power, their antecedents and consequences. Before the measures were subjected to final analysis, their psychometric properties were thoroughly checked. The final analyses involved factor analysis, moderated multiple regression analysis (MMRA) and analysis of variance (ANOVA).

The experiment was aimed at examining the effect of different bases of power on outcome variables and how the sex of supervisor and sex of subordinate interact with bases of power to affect the outcome variables. It employed undergraduate engineering students of a premier institute of technology as subjects. Hypothetical scenarios were used to manipulate basis of power.

To meet the first objective of the study, a 51-item scale was developed to measure 12 different bases of power proposed by French and Raven (1959), Raven (1965, 1992, and 1993) and Hersey, Blanchard and Natelymer (1979). Factor analysis of the data revealed seven bases of power which emerged in four categories namely: (1) reward (both personal and impersonal); (2) legitimate power of reciprocity; (3) coercive (both personal and impersonal); and (4) credibility (information and expert). The final scale is a 23-item scale. The alpha coefficient of the four subscales ranged from .72 to .93. The examination of test-retest reliability and convergent and discriminant validity also indicated that the scale is highly reliable and valid. Although some of the scales were overlapping they were only moderately interrelated (average  $r = .35$ ). The four factors were weakly correlated or completely unrelated to social desirability measures obtained with the help of Crowne and Marlow's (1960) social desirability scale. According to the frequency of usage in Indian organisations (from most used to least used) in Indian organisations the order of bases of power was found to be as credibility power, reward power, legitimate power of reciprocity and coercive power respectively.

To examine the hypothesised relationship between antecedent variables and bases of power, certain contextual, organisational and demographic variables were identified. The results of MMRA for contextual variables indicated that between three contextual variables, namely, climate, degree of control and quality of



interaction, only degree of control and quality of interaction between subordinate and immediate supervisor are significant predictors of bases of power. Thus, contrary to the hypothesis under investigation, the results showed that climate did not determine the use of bases of power. Quality of interaction based on perceived contribution was the significant predictor and it was positively related with reward, legitimate power of reciprocity and credibility power bases. The use of coercive basis of power was found to be positively correlated with supervisor's degree of control over subordinate.

Significant interaction effects were obtained for quality of interaction and degree of control for the use of different bases of power. It was generally observed that if supervisors have high degree of control over subordinates then they use more reward, legitimate power of reciprocity, coercive power and credibility bases of power for subordinates having low quality of interaction with them than for subordinates having high quality of interaction. Interaction between participative climate and quality of interaction for credibility basis of power was also significant.

Organisational variables used in the study were ownership of organisation (public/private) and nature of organisation (service/manufacturing). Results did not support the hypothesis related to independent effect of ownership of organisation on the use of bases of power. However, a combined effect of ownership and nature of organisation was observed for reward basis of power. Reward power was found to be more used in private manufacturing organisations than in public manufacturing organisations. The effect of the nature of organisation was found to be significant for coercive basis of power only.

The results of the study did not support the hypotheses related to independent effect of managerial level of supervisor or managerial level of subordinate on the use of bases of power. However, support was found for the combined effect of

managerial level of supervisor and of subordinate on coercive power and legitimate power of reciprocity.

To investigate the hypothesis related to the effectiveness of bases of power, some consequences of bases of power were examined in the study. Credibility basis of power was observed to be positively related with the outcome variables, namely, compliance, identification, internalisation, satisfaction and performance. Reward power was found to have positive impact on all these consequences and was unrelated to performance. Coercive power was found to be negatively related with subordinates' identification, internalisation and satisfaction. Subordinates found reciprocity power bases as ineffective to increase their compliance, identification etc. with the supervisor.

Convergence was found between the findings of survey study and experimental study for the effect of bases of power on subordinates' identification and internalisation with supervisor indicating more internalisation and identification with credibility basis of power. However, for compliance there was a lack of convergence between the two sets of findings. In the survey study credibility basis of power was observed as a significant reason for compliance. In the experimental study, on the other hand coercive power was rated to be the most likely reason for subordinates' compliance with supervisor.

The speculation that effectiveness of bases of power also depends upon the context in which influence process takes place was confirmed for subordinates' identification, internalisation and performance. Quality of interaction between subordinate and immediate supervisor was found to be major significant moderator for the relationship between bases of power and outcome variables.

In general it was observed that when quality of interaction is high between supervisor and subordinate, more use of reward power and less use of coercive power is more desirable in terms of subordinates' identification and internalisation with supervisor. In low quality of interaction less use of legitimate power of reciprocity was found to be more desirable in terms of subordinates' performance.

In conclusion it can be said that quality of interaction between subordinate and immediate supervisor is the significant predictor as well as moderator for the effective use of bases of power. The use of credibility power bases leads to most positive outcomes and the effect of it on outcome variables is not moderated by contextual variables. Most of the hypotheses were supported by findings. The model found mix support. The results have implications for both the future researchers and the practitioners.

## PREFACE

Social power is a pervasive aspect of social interaction. It works at every level of human interaction whether it is between two persons or among nations. Although exercise and consequences of power are experienced at every level of social organisation, it is most extensively experienced in formal organisations at all levels of hierarchy. Leaders who understand and know how to use power may be more effective than those who do not or will not use power.

The present research focuses on bases of power especially in the context of superior subordinate relationships. The aim of the present research is to empirically investigate consequences of bases of power, antecedents of bases of power and their moderating effects on the consequences by developing psychometrically sound multidimensional measures of bases of power. This study involves two approaches of empirical investigation: survey and experiment.

The thesis has been organised into four chapters. Chapter 1 contains two major subparts. The first part presents the background, major theorisation and meaning of social power as understood by various scholars. It also discusses the bases of social power. The second part deals with the review of literature that leads to formulation of the problem and a model for investigation.

Chapter 2 discusses the survey study in two parts: (1) methodology and (2) results and discussion. The methodology part describes the research site; sample of

the study, tools, procedure and statistical techniques employed in the present study. It also gives the detail of basis of power scale development. The second part of the chapter reports the findings of the effects of antecedent variables (contextual, organisational and demographic) on the use of bases of power. It also presents the results on the consequences of bases of power and how the effects of these bases of power on consequences are moderated by contextual variables.

Chapter 3 contains the experimental study conducted for the present work. It contains the findings on the effect of bases of power on outcome variables (consequences) and how sex of supervisor and sex of subordinate moderate the relationship between basis of power and outcome variables.

Chapter 4 outlines the convergence between the findings of survey and experimental study. It also discusses how the findings of the study support the proposed model. The second part of the chapter contains the summary of the present study. The third part highlights the conclusion of this study. Finally the implications and limitations of the study are presented in the fourth part.

I would like to thank a number of people who have helped me in the preparation of the thesis. First, I wish to express my deep sense of gratitude to my thesis supervisor Narendra K. Sharma for his continuous encouragement, inspiration, support and valuable guidance. My thesis bears imprints of his insightful guidance.

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## LIST OF ABBREVIATIONS

$\alpha$	Reliability Coefficient
$\beta$	Standardised Regression Coefficient
AF	Affect
ANOVA	Analysis of Variance
B	Regression Coefficient based on raw score
BP	Bases of Power
CO	Coercive Power
COM	Compliance
CP	Connection Power
CR	Credibility power
DC	Degree of Control
df	Degree of Freedom
EP	Expert Power
EQU	Legitimate Power of Equity
FL	Formal Legitimacy
ICP	Impersonal Coercive Power
ID	Identification
IP	Information Power
IRP	Impersonal Reward Power
IT	Internalisation
M	Manufacturing Organisations
MANOVA	Multivariate Analysis of Variance
MID Sup	Middle Level Supervisor
ML	Managerial Level
MMRA	Moderated Multiple Regression Analysis
MS	Mean Square
N	Number of Cases
NT	Nurturant-task
OT	Organisation Type
p	Probability
PA1	Principal Factoring without Iteration
PA2	Principal Factoring with Iteration
PC	Perceived Contribution
PR	Private Organisations
PRF	Performance
PRP	Personal Reward Power
PT	Participative
PU	Public Organisations

REC	Legitimate Power of Reciprocity
REF	Referent Power
RES	Legitimate Power of Responsibility
RW	Reward Power
S	Service Organisation
SDs	Standard Deviations
SPSS	Statistical Package for Social Sciences
SS	Satisfaction with Supervisor
TP Sup	Top Level Supervisor

# Chapter 1

## INTRODUCTION

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## An Overview

The fundamental aim of the present chapter is to report about the social influence process in work organisations. The focus is especially on the topic of social power, its classifications, antecedents and consequences. The chapter has been organised into two parts. The first part presents the background relevant to social power. It has been further divided into three sections. The first section discusses the major theorisations. The second section defines the concept of power. The third section covers the various classifications of bases of power. It also presents the detailed description of French and Raven (1959) and Raven's (1992a, 1993) classification, which constitutes the essential background to the present work.

The second part of this chapter contains a review of literature on social power that leads to problem formulation. It has been divided into four sections. In the first section endeavours made in the direction of measurements of bases of power have been reviewed. In the second section empirical studies related to antecedents of bases of power are discussed. The third section deals with the studies examining the effectiveness of bases of power in terms of different consequences. Finally, objectives, variables, and hypotheses of the present study are stated in the fourth section.

## **THE BACKGROUND**

"The concept of power is as ancient and ubiquitous as any that social theory can boast" (Dahl, 1957, p.201). The systematic thinking in power started from the work of Machiavelli, Hobbes, Nietzsche, and Russell. Machiavelli (1467-1521) is widely known for his advice to power wielder on matters like how to generate power,

the pros and cons of different types of power and their effective application in accordance with situation (Ng, 1980). He dissociated power from morality. According to him, one should aspire to be respected rather than loved. In India, Kautilya's administrative tactics to rule over subjects by a king may be claimed as a classical work on power which was similar to what Machiavelli contended in Europe (Deva, 1984; Shamastry, 1956). Hobbes (1588-1697) described power as the present means to secure some future good.

Machiavelli and Hobbes' analysis of power was primarily concerned with the power wielded by individual. On the other hand, Russell (1872-1900) took the corporate group or organisation as the unit of analysis. He conceptualised power as "intended effect". Nietzsche's (1844-1900) 'will to power' was a primitive form of affect corresponding to basic psychological drive. He did not treat power in isolation from the lack of it. His view of power provides a heuristic framework within which a number of concepts in contemporary psychology can be meaningfully related to power. These concepts range from self-actualisation and competence to helplessness and efficacy (Ng, 1980).

Different people have described power in different ways. Some have described it as dirty word or as Warren Bennis has said, "It is the organisation's last dirty secret". Pfeffer (1981) stated that organisations could be understood in terms of individuals and groups using power to seek their own selfish aims, not to promote organisational goals. Kipnis (1976) reported that high power superiors used their power to control subordinates, and came to devalue and dislike them. Low power persons have been found to restrict their communication to that which supports their supervisors and to use flattery and other organisational tactics (Cohen, 1958; Jones,



1964). Other theorists have described power as essential to organisational functioning. McClelland reported that high needs for power characterise successful managers (McClelland and Boyatzis, 1982). Kanter (1977, 1979) argued, based on her observation of organisations, that it is powerlessness that impedes an organisation's work. Subordinates expect and want their managers to be powerful so that they can provide subordinates with the resources necessary to their job.

Social Power has been studied at two levels: (1) interpersonal level (French and Raven, 1959; Martin and Sims, 1956; Mechanic, 1962) - this is basically concerned with questions such as "What are the bases of individual power?" (2) Organisational level -Hickson, Hinnings, Lee, Schneck, and Pennings (1971) made one of the earliest conceptualisation on the power of organisational subunits. This model provided a dynamic approach to the understanding of how power is amassed within the organisational units by highlighting the factors that influence levels of power. It includes a subunit's ability to cope with uncertainty, the substitutability of its activities, and its centrality, all of which are related to a more unifying concept, that of ability to control strategic contingencies (Schein, 1977).

In this backdrop, a brief exposure to the different theoretical approaches to and streamlining the concept of power is essential to further investigation of the same.

### **The Theoretical Approaches**

Three major frameworks have been developed by researchers over a period of time: (a) a field theory framework; (b) an interaction framework; and (c) a decision-making framework.

### **A Field Theory Framework**

Lewin (1944) regarded power as an important field-theoretical construct. According to him, A's power over B equals the quotient of the maximum force which A can induce on B, and the maximum resistance which B can offer (Lewin, 1941). Later developments in the analysis of power by field theorists grew out of their concerns with the study of social influence process. Power continues to be defined in Lewinian manner except that it was expressed as difference between induced force and resistance rather than the quotient of the two (Cartwright, 1959; French and Raven, 1959). In this framework, power is potential influence and influence is power in action. Thus field theoretical conception of power as potential influence makes it possible to regard power as a continuous variable rather than all or none discrete factor.

### **An Interaction Framework**

Thibaut and Kelly (1959) conceptualisation of power was based on their analysis of the way individuals interact. According to this framework in social interaction, the participants provide certain outcome to each other. Thus the interaction can be described as social exchange process in which the behaviours of participants are interdependent. Theoretically each participant can affect each behaviour and thereby alter the outcome. Power was defined here as the ability to affect the quality of partner's outcomes. The greater the range of person B's outcome which can be moved by A's behaviour, the greater will be A's power over B. Thus according to this framework power is potential for exercising influence which is activated under specific conditions of mutual control and is affected by the outcome

matrix characterising a relationship. Somewhat parallel views are given by Blau (1964) and Homans (1958) in which interaction was viewed as an "exchange process". According to Homans (1958), individuals tend to maintain balance in the exchange of social values. Emerson (1962) has made an attempt to apply the interaction framework to balance concepts.

### **A Decision-Making Framework**

According to March (1955) a large part of human behaviour can be treated as an example of decision-making process and power or "influence is to study decision-making what force is to study of motion - generic explanation of the basic observable phenomena" (March, 1955 p.432). Influence was described by March as the inducement of change in an individual. A role is considered to be more influential if it is "... more successful than the other at narrowing the range of possible outcomes" (March 1957, p.210).

Dahl (1957) extended the analysis given by March. He accepted March's general definition of power but modified its referents. Dahl (1957) defined A's power over B "as the net increase in the probability of B enacting a behaviour after A has made an intervention, compared to probability of B's enacting the behaviour in the absence of A's intervention.

Besides these major frameworks, power also has been understood as a latent force (Birestedt, 1950) and as a personality construct (Minton, 1967).

These theoretical frameworks are the broad categories for understanding the concept of power in general. The following section presents a brief look on how different researchers have defined the concept of power.

## The Concept

In 1938 Bertrand Russell predicted that the concept of 'power' would emerge as a fundamental issue in the social sciences. Since that prediction, statements like 'power permeates all human action...' (Clark, 1974, p.74) or 'power in short, is a universal phenomenon in human activities and in all social relationships' (Bierstedt, 1950, p.730) can be found through the literature, but no research or theorisation has produced a single uniform conceptualisation of power. Bierstedt (1950) used pertinent analogy when he asserted, "we may say about it (power) in general only what St. Augustine said about time, that we all know perfectly well about what it is - until someone asks us" (Bierstedt, 1950, p.730).

The English word "power" is derived from Latin root "potere" which means 'to be able to' (Winter, 1973). The Penguin English Dictionary (Second edition, 1969), defines "Power is ability to do something, strength, force, vigour, energy, ability to control or influence others, ability to impose one's will..." (Clegg, 1975).

Following are the various conceptualisations of power given by different theorists.

Heider (1958) conceptualised power as a function of intentions and abilities. According to Weber, "power... is the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance..." (Weber, 1947, p.152).

Lippitt, Polansky, and Rosen (1952) described power as the potentiality for inducing forces in other persons toward acting or changing in a given direction. Kaplan (1964) pointed out that power marks the ability of one person or group of persons to influence the behaviour of others--that is to change the probabilities that

others will respond in certain ways to specified stimuli. When the weight of power is maximal or nearly so, we may speak, not of power or influence, but of "control". Emerson (1962) described power as a function of dependence. According to Emerson (1962, p.32), "... the dependence of actor A upon B is (i) directly proportional to A's motivational investment in goals mediated by B and (ii) inversely proportional to the availability of these goals to A outside of the A-B relation". Similarly Mechanic (1962) suggested that a person become subject to another's power when he is dependent on another's control of access to information, persons, and instrumentalities.

Researchers also have made distinction between potential and realised power. This aspects focus on the possession of power as being different from its<sup>its</sup> actual use. Potential power is realised only when there is observable attempt to influence (Wrong, 1968).

Thus power has been defined through a wide-ranging array of concepts depending upon the researchers' aims and requirements. In the present work power will be viewed as potential social influence: "the ability of one person or group to influence another" (Raven, 1992b). The present study is designed in the theoretical framework of French and Raven (1959).

### **Bases of Power**

Bases of power can be defined as the resources and characteristics a person has in order to be able to influence other. Several classifications of bases of power have been set forth by different social scientists (e.g. French and Raven, 1959; Mechanic, 1962; Mudler, 1971; Pebody, 1962; and Weber, 1947). French and Raven identified five bases of power, reward, coercive, referent, legitimate, and expert. Etzioni (1975)

and Warren (1968) classified power based on the perception or involvement of those in organisational relationship. Etzioni (1975) described three types of power namely coercive, remunerative, and normative. Pebody (1962) presented three sources of power: position, competence, and personal. Pareek (1994) has grouped power under four categories: organisational, personal qualities, relationship, and manipulation.

Researchers have classified French and Raven's (1959) bases of power into different categories. Studies suggest that these bases of power can be reclassified as positional (reward, coercive and legitimate) and personal (referent and expert) (Rahim, 1988; Yukl and Falbe, 1991). This division is a typical manifestation of Bernard's (1938) views related to distinction between the "authority of position" and the "authority of leadership" which are related to position and personal power respectively. Hunt and Nevin (1974) used a coercive and noncoercive distinction and Etgar (1978) applied an economic/non-economic dichotomy. Imai (1989) classified these bases of power into primary and secondary power bases.

Several reviews suggest that, of the various classifications of bases of power, the French and Raven's (1959) classification has been widely used. It has been applied to a number of areas of social interaction: parents influencing children (Rollins and Thomas, 1975; Tashakkori, Thomposon and Simonian, 1989), husbands and wives influencing another (Raven, Centers, Rodrigues, 1975), children influencing one another (Schmidt and Raven, 1985a, 1985b; Schmidt, Raven, Pastorelli and Caprara, 1993; Schmidt, Yanagihura and Smith, 1987), teachers influencing students (Jamieson, and Thomas, 1974), doctors influencing patients (Rodin and Janis, 1982; Raven, 1988; Raven and Litman-Adizes, 1986), salesmen influencing customers (Bush and Wilson, 1976; Gaski, 1986).

franchisers influencing franchisees (Hunt and Nevin, 1974), political figures influencing one another (Gold and Raven, 1992; Raven, 1990; Rasinski, Tyler and Fridkin, 1985) and, in quite a few studies, influence of supervisors in organisational settings (e.g., Abdalla, 1987; Ansari and Kapoor, 1987; Cobb, 1980; Cope, 1972; Frost and Stahelski, 1988; Hinkin and Schreischeim, 1990; Kabanoff, 1985; Melia-Navarro and Peiro-Silla, 1984; Podsakoff and Schreischeim, 1985; Shaw and Condelli, 1986; Sinha and Singh-Sengupta, 1991; Stahelski, Frost, and Patch, 1989; Student, 1968), which shows this model has universal applicability. In spite of wide usage of French and Raven's (1959) classification of bases of power in different areas of social interaction, there are many questions which still are unanswered in each area. The present work is mainly concerned examining the bases of power in organisational set up. The review of literature (presented in second part of this chapter) will give the justification for studying these bases of power by pointing out the questions that need to be answered.

In their original theory French and Raven (1959) proposed five bases of power namely, reward, coercive, legitimate, expert and referent. Information power was incorporated later by Raven (1965) in the original classification as the new basis of power. Hersey, Blanchard, and Natemeyer (1979) have added one more basis of power, connection power, to this list. More recently, Raven (1992a, 1993) expanded the taxonomy of power bases in which some of the original six bases of power were further classified. Reward and coercive were subdivided into two types: personal and impersonal. Legitimate power of which the original definition was based on relative position of influencing agent and target was now thought to include other three forms of obligation: reciprocity, responsibility and equity. These bases of power are briefly

described below.

### **Personal Reward Power**

This is a social power that derives from the ability of the supervisor to reward the subordinate by showing personal approval, love and acceptance, or by removing or withdrawing personal disapproval, hate and rejection, and where it is clear that the supervisor will reward the subordinate if the subordinate complies.

### **Personal Coercive Power**

This is a social power that derives from the ability of the supervisor to punish the subordinate by showing personal disapproval, hate and rejection, or by removing or withdrawing personal approval, love and acceptance, etc., and where it is clear that the supervisor will punish the subordinate if the subordinate does not comply.

### **Impersonal Reward Power**

This is social power that derives from the ability of the supervisor to reward the subordinate by administering or mediating impersonal commodities such as money, a good grade in course, and a recommendation for promotion etc., or by removing impersonal commodities such as recommendation for demotion, fine, etc., and where it is clear that the supervisor will reward the subordinate if the subordinates complies.

### **Impersonal Coercive Power**

This is a social power that derives from the ability of the supervisor to punish the subordinate by administering or mediating impersonal commodities such as fine and demotion, or by removing impersonal commodities such as pay hike and promotion, etc., and where it is clear that supervisor will punish the subordinate if the subordinate does not comply.



### **Information Power**

This social power, also known as persuasion, is based on the information or logical argument that supervisor could present to the subordinate in order to implement change. For example, a doctor persuades a patient to give up smoking by providing evidence that smoking is closely associated with lung cancer and other serious ailments.

### **Expert Power**

This is social power that can be exerted by the supervisor when the subordinate attributes superior knowledge, competence, or ability to the supervisor. For example, a doctor may convince a patient to give up the smoking by saying that the doctor after all has studied medicine for many years, and the patient should be assured that the doctor is giving such advice based on competence, knowledge, and experience.

### **Referent Power**

This is a social power that arises when the subordinate who is being influenced identifies with the supervisor, perceives some communality, or wants to form a unity with the supervisor. For example the subordinate may adopt the working method of his or her favourite supervisor.

### **Connection Power**

This social power is based on supervisor's connection with influential persons inside or outside the organisation. The supervisor high in connection power induces compliance from subordinates because subordinates aim at gaining the favour or avoiding the disfavour of powerful connection.

### **Formal Legitimacy**

This is a social power that arises when the subordinate accepts the supervisor's right to influence due to supervisor's position in an organisation and subordinate thereby feels an obligation to comply. Implicitly or explicitly, the supervisor says, "I have a right to ask you to do this and you have an obligation to comply".

### **Legitimate Power of Reciprocity**

This is a social power that arises when the subordinate accepts the supervisor's right to influence and subordinate feels an obligation to comply due to social norm of reciprocity which specifies that the person who has been helped, received a gift, or been otherwise favoured, should be obligated to return the favour and assist the helper in return. For example, supervisor says, "I did that for you, so you should feel obligated to do this for me".

### **Legitimate Power of Responsibility**

This is a social power that arises when the subordinate accepts the supervisor's right to influence and subordinate feels an obligation to comply due to social norm of responsibility which specifies that we have an obligation to help others who cannot help themselves, others who are dependent upon us. This sometimes has been referred to as the "power of powerless". For example, supervisor could conceivably say, "look, I am not about to force you to follow my method, but I really depend upon you to do this for me".

### **Legitimate Power of Equity**

This is social power that arises when the subordinate accepts the supervisor's right to influence and subordinate feels an obligation to comply due to the norm of equity, which specifies that people are expected to help others receive what is justly

theirs. For example, supervisor says, "you did something which caused difficulties for me, so I have the right to ask you to do something to make up for it".

The present work examines the bases of power in the context of expanded power/interaction model of interpersonal influence.

## **REVIEW OF LITERATURE**

In the present section the literature pertinent to social power will be reviewed under three major headings: (a) measurement of basis of power; (b) antecedents of basis of power; and (c) consequences of basis of power. The review is an attempt to shed some light on the issues, which have already been explored, and to identify the major gaps in research, which need to be examined.

### **Measurement of Bases of Power**

Podsakoff and Schriesheim (1985) reviewed the field studies, which used French and Raven's (1959) power taxonomy. They pointed out some serious shortcomings in these studies that raised doubt about the accuracy of their findings. All these shortcomings were related to the psychometric inadequacies of the power measures, which were used in these studies. Podsakoff and Schriesheim (1985) presented a detailed critique of the three measures that have been used to operationalize French and Raven's taxonomy in these field studies (Bachman, Smith, and Slesinger, 1966; Student; 1968; Thamhain and Gemmill, 1974) and pointed out "the existing research does not support drawing confident conclusions about such things as relationship between the five power bases and subordinate outcome variables" (Podsakoff and Schriesheim, 1985).

All of these three measures suffer from various psychometric shortcomings. In all of these instruments, single items were used to measure the five power bases. Single item instruments are generally less reliable than multi-item instruments and internal consistency coefficients cannot be calculated for them (Nunnally, 1978). It is generally agreed by psychometricians that internal consistency reliability is needed to assess the quality of an instrument. Along with these they suffer from poor face, content and convergent validity (Rahim, 1986). It seems impossible for single item measures to adequately sample the content domain of the relatively broad constructs defined by French and Raven (Nunnally, 1978). All of these measures used very narrow conceptualisation of theoretically broad concepts, and several items on some of the instruments seem to imply extraneous content or be unnecessarily vague and open to different interpretations by different respondents.

Another shortcoming of these scales is that ranking procedure has been used. The items are presented to respondents as a set, and the respondents are asked to rank order the items according to their importance as reasons of their (subordinates') compliance with their supervisor. In ranking procedure any single basis of power can only be given prominence at the expense of other bases. As a result the ranking procedure tends to force negative empirical relations among the five bases of power. Thus the ranking studies assume that the bases of power are compensatory, meaning thereby that having one basis of power is good enough, it will compensate for the lack of others. However, bases of power may be non-compensatory. In addition ranking procedure also tends to force the lower ranked bases of power to be related to the criterion variables in the opposite direction of the higher ranked power bases.

Finally there has been no attempt to assess the role of social desirability or

attribution bias in respondents' replies in these instruments. Crowne and Marlow (1964) described social desirability biases as a result of "a need for social approval and acceptance by means of culturally acceptable and appropriate behaviours" (p.109). In general we expect that a person with substantial reward and punishment power is more likely to obtain subordinate's compliance with requests and orders even when that leader makes no explicit promises or threats. But it is more acceptable for subordinates to attribute their compliance to the leader's expert or referent power than to acknowledge desire for material rewards or fear of punishment has influenced them.

Although many researchers (e.g., Hinkin and Schriesheim, 1989; Frost and Stahelski, 1988; Imai, 1989; Rahim; 1988) have developed instruments of social power, which answered many of earlier criticisms, yet they also have some shortcomings. Raven (1992a) has pointed out that these power scales are limited to the five original bases of power, omitting information power. These measures often merge informational power with expert power, which is dynamically quite distinct. At the present stage, there is also need of scale which includes original six bases of power, plus the personal form of reward and coercion and three additional forms of legitimate power.

### **Antecedents of Bases of power**

Researchers have empirically investigated the effect of different variables on the use of bases of power. These variables can be seen in three broader categories: (a) contextual variables; (b) organisational characteristics; and (c) demographic and psychological characteristics.

## Contextual Variables

Use of bases of power varies as a function of contextual variables. The role of context is expected to be very significant in the choice of bases of power by supervisor, as it is context or situation in which influence attempts take place. At the micro level these contextual variables can be related to the interaction between superior and subordinate and at the macro level these can be related to organisational climate, culture etc.

Cheng (1983) provided experimental evidence regarding how the use of the particular strategy is a function of the context (climate) of the organisation of which the individual is a part. Tjosvold (1985) examined the effect of social context on how superiors use their power to interact with subordinates. Results indicated that in Co-operation superiors are likely to use their power constructively. However, in competitive and individualistic context, superiors are apt to fail to use their resources to facilitate subordinate performance.

MacDaniel, Parasurman and Furtell (1985) examined the relationship between organisational climate and the particular social power base of marketing executives. They studied organisational climate as the specific conditions in the organisational environment of the firm. Results indicated that the three desirable power bases - expert, referent and legitimate - were related with all four of the organisational climate dimensions studied: reward orientation, personnel policies, management by objective and status orientation. The undesirable power base, coercive power, was not correlated with any of these dimensions. The above study was mainly concerned with examining the marketing executives' bases of power.

Researchers also have tried to show how the use of bases of power is affected

by variables pertaining to interactions between superiors and subordinates. A review of the literature showed that harsh means of influence are invoked to influence a disliked or distrusted person (Kipnis, 1976; Michener and Schwertfeg, 1972). Graen and Cashman (1975) reported difference between in- and out- group members with regard to leader's use of power. Both members and leaders reported greater use of referent and expert power with in-group members than with out-group members. Members, but not leaders, also reported greater use of coercive power with out-group members.

The influence attempt is also guided by the power differential between the agent and target, such that individuals shift from requests to demands as their power increases (Kipnis, Schmidt and Wilkinson, 1980; Wilkinson and Kipnis, 1978). Kipnis (1976) reported that as one party gained the edge over the second, the stronger party persisted longer and used a more forceful tactic. Wilkinson and Kipnis (1978) have shown that strong and controlling tactics of influence were used significantly more often when the target firm was less powerful than the influencing firm was.

Singh (1989) reported that when bank managers had less power than the non-managers in nationalised banks they tended to use referent, reward and expertise power bases. On the other hand, when the managers had greater power in private banks they used stronger power bases, such as coercive and informational powers.

Stahelski, Frost and Patch (1989) examined the effect of number of subordinates supervised within the workgroup and found it was significantly correlated with increased use of coercive power by the workgroup leader.

## **Organisational Characteristics**

Shetty (1978) pointed out the importance of organisational variables like nature of the task, visibility of the task performance, the nature of the organisation and environmental uncertainty for the use of power bases. Studies (Kipnis, 1983; Shetty, 1978; Sussman and Vecchio, 1982) have indicated that task variety and task feedback enhance the use of position and personal bases of power. Lawrence and Lorsch (1969) demonstrated that uncertain and heterogeneous environmental conditions responded best to widely shared and high level of reciprocal influence, while position based authority was efficient in stable organisations.

Researchers have made attempts to establish the generality of reported power use patterns across organisations within the same industrial classification. Stahelski, Frost and Patchen (1989) found no differences in three academic institutions in the pattern of use of the bases of social power. Busch (1980) also reported evidence of similar power bases use in different pharmaceutical firms. But no effort has been made to examine the generality of bases of power across different type of organisations.

Studies have also reported differences in power usage in public and private organisations. Singh (1989) reported that both managers and non-managers employed coercive power in all, particularly in private banks. Referent power was more effective in the nationalised banks. The managers did not attach much importance to their authority, i.e., legitimate power to influence non-managers.

## **Demographic and Psychological Characteristics**

There also have been attempts to investigate the effect of various demographic characteristics of superiors and subordinates on the use of power bases. Research has



indicated an association between different superior's characteristics (like leadership style, self-confidence, training experience and knowledge, power motive and sex) and superior's ability to effectively use various bases of power.

Leaders who lack self confidence and have low level of competence and expertise use organisationally based sources of power but personal or individual bases of power are used when they have high level of expertise and self confidence (French and Raven, 1960; Kipnis and Lane, 1962; Shetty, 1978; Mechanic, 1983; Abdalla, 1987). In one study (Imai, 1993) power motive of the agent person has also been indicated as a significant predictor of bases of power.

Some studies have also reported a significant relationship between bases of power and sex of influence. Research reviewed by Johnson (1978) suggested that use of expertise, reward and coercion are stereotypically masculine modes of power. Conversely, persuasion and information seem to fit better with female stereotype. No prediction was made for referent power. Other studies (e.g. Kanter, 1977; Ragins, 1989; Michener and Schwertfeger, 1972) concluded weaker and fewer sex differences than would be expected on the basis of sex-role stereotypes.

Many characteristics of the subordinates like age, education, work experience, personal need and job attitudes also have been indicated to be significant predictor of bases of power in different studies. Subordinates who have low level of work - experience and give more value to lower order needs are more likely to be influenced by positional bases of power. On the other hand subordinates with high level of work experience and giving more value to growth need are more receptive to personal bases of power (Hackman and Oldman, 1976; Patchen, 1974; Shetty, 1978; Sussman and Vecchio, 1982; Van Fleet, 1973). The same studies have reported positive relations in

higher level of education and personal bases of power. A job attitude of subordinates, namely, the protestant work ethic has been found to be related to both position and personal bases of power (Blood, 1969; Sussman, and Vecchio, 1982).

Studies also have tried to examine the effect of status of supervisor and subordinate on the use of bases of power. The result of the study by Frost and Stahelski (1988) demonstrated that lower level leaders use expert and referent power, while higher - level leaders expand their repertoires to include legitimate, reward and coercive powers. Koslowsky and Schwarzwald (1993) reported that people who were perceived as higher status used a greater variety of influence strategies than those perceived as lower - status did. Kahn, Wolfe, Quinn, Snoek and Rosenthal (1964) found that higher level supervisors reported a greater ability to use the legitimate reward and coercive power bases than did lower level supervisors, but found no difference by level on expert power. Yukl and Falbe's (1991) study showed that downward reward and coercive power was greater for middle managers than for lower level managers and managers had more position power over subordinates than over peers.

Thus the researchers have frequently examined how the level of supervisor or subordinates affect the use of power bases. But no study has investigated how the relative status of supervisor and subordinate can affect the use of power bases. Some time supervisor and subordinate belong to same managerial level. It is assumed that in this situation the use of supervisory power bases will vary from the situation when both belong to different levels.

## **Consequences of Bases of Power**

Earlier studies on French and Raven's power classification frequently examined the effectiveness of different bases of power in terms of their various consequences like compliance, satisfaction, performance etc. But these studies were deficient in several respects as has been pointed out in the review of measurement of bases of power. Later researchers (e.g. Hinkin and Schriesheim, 1989; Frost and Stahelski, 1988; Imai, 1989; Rahim, 1988) have tried to come over the limitations pointed out by Podsakoff and Schriesheim (1985) and developed some measures of bases of power. They have tried to examine the effectiveness of bases of power by using new measures of bases of power. Following is a brief review of the variables and studies related with the effectiveness of bases of power.

### **Compliance**

Compliance has been frequently examined as one criterion to measure the effectiveness of power bases as it is most directly related or linked with the outcome of power use. In general words compliance can be defined as the target's readiness to do what the agent asks, even if he is willing or not. It is more public change in behaviour than private change.

Early studies (Bachman, 1968; Bachman et.al, 1966; Bachman, Bowers, and Marcus, 1968; Fontaine and Beerman, 1977; Ivancevich and Donnelly, 1970; Patchen, 1974; Speckman, 1979; Student, 1968) reported that subordinates in the United States perceive coercive power as a weak reason for compliance with a superior's wishes. Subordinates consider reward and legitimate power bases to be important, but no clear relationship was found between these bases of power and compliance.

Other studies (Dunne, Stahl and Melhart, 1978; Thamhain and Gemmill, 1974;

Rahim, 1989; Yukl and Falbe 1991) found that legitimate, expert and referent bases of power were positively associated with compliance.

Warren (1968) distinguished between attitudinal and behavioural compliance and found that the use of five types of power by the principal is associated with total (behavioural and attitudinal) conformity of teachers. Other studies (Rahim, 1988; Rahim and Afza, 1993; Rahim and Buntzman, 1989) reported that expert and referent power bases were positively correlated with attitudinal compliance whereas legitimate and referent power bases were positively correlated with behavioural compliance. In an experimental study (Pellegrini and Rubin, 1974) recipients exposed to coercive, informational, or legitimate power were seen as far more likely to comply than those exposed with reward and referent.

### **Surveillance**

In social power theory (French and Raven, 1959) bases of power were differentiated on the basis of whether surveillance or observation by the influencing agent of the target person is necessary or not. It was predicted that for the coercive and reward power surveillance is important while under legitimate, referent, expert and information there is no need of surveillance. This prediction has found support in many studies (Kelley and Ring, 1961; Ring and Kelley, 1963; Raven and Kruglanski, 1970; Shaw and Condelli, 1986) while it is elsewhere reported that like coercive power, legitimate power also needs surveillance (Litman-Adizes, Raven and Fontaine, 1978).

### **Identification**

Identification can be said to occur when an individual accepts influence because he/she wants to establish or maintain a satisfying self-defining relationship

with another person or a group (Kelman, 1958). That is, an individual may feel proud working with a person or group, respecting its values and accomplishments without adopting them as his or her own. In an experimental study (Pellegrini and Rubin, 1974) coercive power was found to elicit negative identification with the influence transmitter.

### **Internalisation**

Internalisation can be said to occur when an individual accepts influence because the content of the induced behaviour - the ideas and actions of which it is composed - is intrinsically rewarding (Kelman, 1958). In other words it can be said that internalisation occurs when influence is accepted because the induced attitudes and behaviours are congruent with one's own values, that is, the values of the individual and the other person or group are the same. In an experimental study (Litman-Adizes, Raven and Fontaine, 1978) information was perceived as most effective in inducing private acceptance of change. In another study (Pellegrini and Rubin, 1974) both information and coercive power were rated as most likely to elicit internalisation.

Shaw and Condelli (1986) found that coercive and reward power prevents private acceptance while other four bases of power (referent, expert, legitimate and information) elicit private acceptance. Peay (1976) reported that females showed more private acceptance when the influencing agent used reward power rather than referent power, while males showed more private acceptance when the agent used referent power rather than reward power.

## **Liking**

According to social power theory and other previous experiments (French and Raven, 1959, Raven and Kruglanski, 1970; Shaw and Condelli, 1986) referent and reward power increase positive attraction for agent person, coercive power results in negative attraction, whereas target person often feels ambivalent toward agent with legitimate and expert power. In another study (Litman-Adizes, Raven and Fontaine, 1978) workers liked the supervisor most following the use of reference, reward, information and expertise and supervisors like the workers most following the use of reference, reward and expertise. Both workers and supervisors liked each other the least following the use of coercion.

## **Satisfaction**

A review of the effect of power bases on satisfaction indicates that satisfaction has been widely studied in terms of job satisfaction, work satisfaction and satisfaction with supervisor.

A number of studies (Bachman, 1968; Bachman et.al, 1966; 1968; Busch, 1980, Shetty 1978) reported inconsistent relationship for reward and legitimate power bases and job satisfaction. These studies found positive relationship for expert and referent power and negative correlation for coercive power with job satisfaction. Rahim and Afza (1993) found that referent power was positively correlated with satisfaction with work.

In a meta-analytic examination of social power bases and their outcomes (Carson, Carson and Roe, 1993) it was found that expert and referent power bases were most strongly correlated with satisfaction with supervision and job satisfaction. Coercive power basis was significantly negatively correlated with satisfaction with

supervision and job satisfaction. The relationships between satisfaction with supervision and legitimate and reward power were notably weaker.

### **Performance**

Performance has been measured in terms of composite performance measure including items relating to both quality and quantity of work. The same supervisor who was rated in the power judgements by the subordinates generally provided performance ratings. Previous studies (Bachman, 1968; Bachman, et.al, 1966; Fontaine and Beerman, 1977; Ivancevich and Donnelly, 1970; Patchen, 1974; Speckman, 1979; Student, 1968) concluded that subordinate considered the coercive power base to be a weak reason for performance. Reward and legitimate power showed no clear relationship with performance. Expert power and, in most cases referent power was consistently correlated with performance.

In a meta analytic examination (Carson, Carson and Roe, 1993) the strongest relationship was found between expert power and performance, followed by reward power and performance, referent power and legitimate power were marginally related to performance, and coercive power was unrelated. Sheley and Shaw (1979) hypothesised that use of reward power possessed by a leader increases group productivity, whereas use of coercive power decreases productivity. Results supported the hypothesis with regard to the use - nouse of coercive power but not with regard to the use or nouse of reward power.

### **Propensity to Leave a Job**

It generally refers to employee's inclination to leave his/her present organisation. Student (1968) reported that an employee's withdrawal measures are negatively related to the supervisor's referent power. Other studies (Busch, 1980;

Ivancevich and Donnelly, 1970) explained only weak relationships of expert and referent power to propensity to leave a job.

To sum up, the review of literature indicates various gaps at different stages in the studies examining the social power. The major gap identified is related to measurement of bases of power. Without an appropriate measurement we cannot draw confident conclusion for relationship of bases of power with other variables. At the present stage there is a need to develop a scale, which involves all the revisions made in the original model of bases of power of French and Raven (1959).

At the second stage there is a need to identify the variables which dispose the person to set preferences for the use of bases of power. Although researchers have identified various variables, but they have focused on only one or two contingency factors at a time. This type of research strategy is considered somewhat limited in scope, as it does not allow for a simultaneous examination of variables affecting the different bases of power. Along with this, in complex organisational settings, it can be hardly expected that influence process at any level be determined by single variable. It is expected that in any organisational set up at a time a combination of different variables work in the process of influencing other person or group.

Regarding the consequences of bases of power although there have been several attempts, yet there is a need for further investigation. There are inconsistencies in findings of the studies examining the effect of bases of power on different consequences which may be attributed to measurement shortcomings, sample studied and to approach of empirical investigation. It may also be seen that only a few researchers have examined the effectiveness of information power in their studies.

Another important point is these studies have generally investigated the direct



effect of bases of power on the consequent variables. Researchers have almost ignored the role of antecedent variables, which determine the effectiveness of power acquisition and use by supervisor. Future research is required to examine the effect of these contingency conditions in relation to effectiveness of bases of power.

## **The Problem Formulation**

### **Focus of the Problem**

The focus of the present study is on the bases of power working in organisational set-up especially in superior subordinate relationship. This research is an attempt to address some of the issues mentioned in the review of literature. The aim of the research is to investigate consequences of bases of power, antecedents of bases of power and their moderating effects on the consequences by developing psychometrically sound multidimensional measures of bases of power based on French and Raven (1959) and Raven's (1965, 1992a, 1993) conceptualisation.

Following objectives were identified for the present study.

1. To examine the bases of power adopted by the supervisors to get compliance from their subordinates by developing psychometrically sound multidimensional measures of bases of power.
2. To examine the main and interaction effects of contextual variables on the use of bases of power.
3. To examine the effect of organisation type i.e. ownership of organisation and nature of organisation on the use of bases of power.
4. To examine the effect of managerial level of the supervisor and subordinate on the use of power bases.
5. To examine the main and interaction effects of bases of power on outcome

variables.

6. To examine the moderating effects of contextual variables on the relationship between bases of power and outcome variables.
7. To examine the effect of interaction between bases of power, sex of supervisor and sex of subordinate on outcome variables.

On the basis of above objectives a model (Figure 1) was proposed which shows the relationships between bases of power, their antecedents and consequences.

The model indicates that the supervisor may use different bases of power for different subordinates. The bases of power that a supervisor adopts may be guided by some contextual variables like climate, quality of interaction between subordinate and immediate supervisor, supervisor's degree of control over subordinate, and power distance between supervisor and subordinate. These contextual variables may also interact with each other in influencing the choice of bases of power. The use of bases of power may also vary depending upon the ownership of the organisation or nature of the organisation or their interaction. The managerial level of the supervisor and subordinate either independently or jointly may determine the use of power bases of power may also influence different outcome variables (consequences). The effect of bases of power on these variables may also be moderated by the contextual variables. The sex of the supervisor and subordinate may also interact with bases of power to affect the outcome variables.

Although the main approach of investigation adopted in the present study was sample survey, some objectives were also investigated through an experiment. The reason for doing this was to counterbalance the weakness of one approach with the

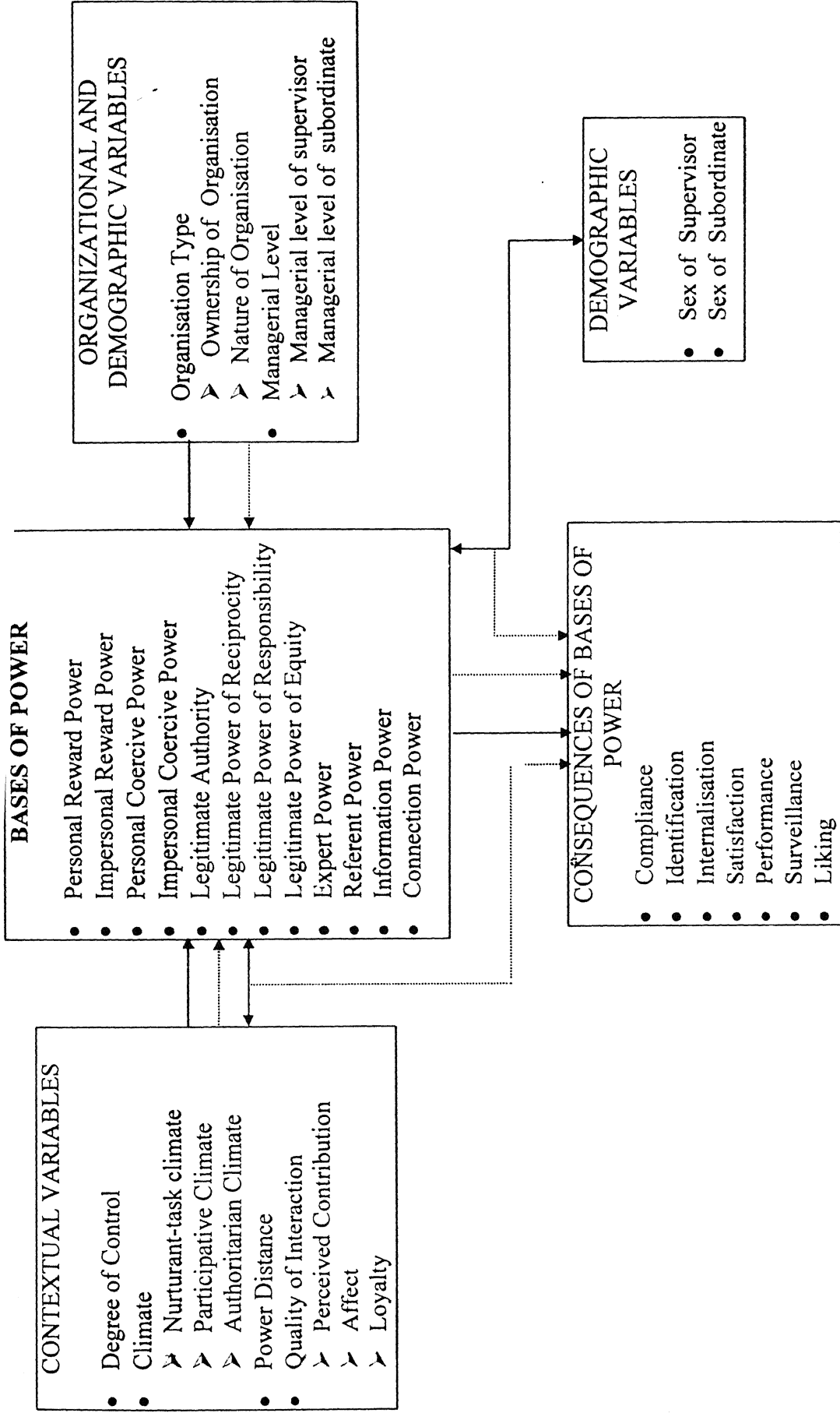


FIGURE 1.1 A Summary of Proposed Relationships between the Antecedents and Consequences of Bases of Power.

strength of the other. A greater confidence can be had in findings on the basis of converging evidence obtained by using the two approaches.

### **Variables and Hypotheses**

This section describes the variables investigated in the present study and hypotheses related to them. The variables of the study are classified into two categories: (1) antecedents of bases of power; and (2) consequences of bases of power. First the hypotheses related to antecedent variables are presented. The hypotheses related to consequences of bases of power are presented next.

Finally, the issue related to how contextual and demographic variables moderate the relationship between bases of power and their consequences is pointed out.

#### **Antecedents of Bases of Power**

These are classified into three categories: (a) contextual variables; (b) organisational variables; and (c) demographic variables. Hypotheses related to contextual variables are presented along with description of these variables. Hypotheses related to main effects are stated before describing the hypotheses related to interaction effects.

#### **Contextual Variables**

The earlier studies have tried to examine the effect of climate, quality of interaction and power distance on the use of bases of power and reported the relationship between these variables and bases of power. But these variables have

## Main Effects

### Climate

The environment in organisation is conceptualised as climate. Climate has been conceptualised climate as

“ a set of measurable properties of the work environment, perceived directly and indirectly by the people who live and work in this environment and assumed to influence their motivation and behavior” (Litwin and Stringer 1968, p.11)

James and Jones (1974) recommended that a distinction be made between climate regarded as an organisational attribute or as an individual attribute. When regarded as an organisational attribute, the term organisational climate appears appropriate. When regarded as an individual attribute, it is recommended that a new designation such as "psychological climate" be employed (p. 1108).

According to James and Jones (1979) psychological climate “ (a) refers to the individual’s cognitively based description of the situation, (b) involves a psychological processing of specific perceptions into more abstract depictions of the psychologically meaningful influence in the situation; (c) tends to be most closely related to situational characteristics that have relatively direct and immediate ties to individual experience (p. 205).

There have been several attempts to define and measure dimensions of climate. Earlier researchers (e.g., Hellreigel and Slocum, 1974; Indik, 1968; James and Jones, 1974,1976; Payne and Pugh, 1976; Schnider, 1975; Sells, 1963,1968) have identified various dimensions like job characteristics (variety, challenge etc.), social environment (friendliness of work group), and leader behaviour.

According to Kozlowski and Doherty (1989)

The leadership behavior of immediate supervisor is likely to be salient features

and to be interpreted as representative of more molar organizational processes. Even features, events and processes occurring at higher levels are likely to be mediated by local leadership behaviors, given that an individual's immediate supervisors is the most salient, tangible representative of management actions, policies and procedures (p.547)

Litwin and Stringer (1968) created three simulated organisations with three leadership styles – formality, co-operation and production. Over a period of time, these climate being differentiated depending upon the leadership style.

In essence, It can be said that the members' perceptions of organisational climate are their (members') leaders' manifested style of working.

In the present research climate was measured by having an average measure of perceived climate and it was conceptualised in terms of leadership styles of the supervisors in general. It may be recognised in terms of participative climate, nurturant task climate, and authoritarian climate.

An authoritarian climate has been conceptualised as one where the manager is self-oriented and concerned with status power and image management. Shetty (1978) pointed out that the authoritarian personality syndrome is characterised, among other things, as involving conventionalism, power seeking and low tolerance for ambiguity.

In a nurturant task climate, managers are concerned with task orientation with a blend of nurturance. Sinha (1979) conceptualised nurturant task leader as one who structures his as well as subordinates' expectations and roles and emphasises task accomplishment. The (NT) leader guides and directs his subordinates; under such leadership communications are explicit, structured and task relevant; responsibilities are pointed and areas of decision making are synchronised with them. He also cares for his subordinates, shows affection and takes personal interest in their well being

accomplishment and by cultivating better job skills and commitment.

A participative climate is one in which the managers in general are high on group decision making supportive relationships, and high performance goals.

Some studies relating to supervisory leadership style and bases of power have been conducted in the past. In an experimental simulation of organisations (Kipnis, Schmidt, Price and Stitt, 1981) it was found that authoritarian leaders used strong and controlling tactics in which all decisions were made by themselves. Democratic leaders on the other hand used rational tactics to influence and they also delegated decision-making power to group members. Other studies (Dustin and Davis, 1982; Abdalla, 1987) also suggested that authoritarian leaders depend mainly on their position whereas democratic leaders rely on their charisma in order to make the subordinate comply with their orders. McClelland (1970) pointed out that authoritarian persons use legitimate and coercive power significantly more often than the non-authoritarians in controlling the behaviour of others.

In the light of above discussion, it was hypothesised that:

**H1:** Climate of the organisation influences the bases of power used by supervisor.

### **Degree of Control**

Tannenbaum (1974) described hierarchical control in organisation based on the notion of obedience to authority. All complex organisations employ control system of some type. According to Tannenbaum (1968), organisation is impossible without some form of control. Tannenbaum (1962) defines control as "any process in which a person or a group of persons or organisation of persons determine, i.e. intentionally affects what another person or group of persons will do" (Tannenbaum, 1962, p.239).

Hierarchical control has been described as a universal feature of organisation. Tannenbaum (1974) also reported that a wide variety of organisations show a similar gradient of control, with those at the top of the system exercising more power than the rank and file members do.

Scholars have been exploring the issues related to how much power or control people; particularly managers have in the organisations (Kotter, 1977; Lee, 1977; McClelland and Burnham 1976; Salancik and Pfeffer, 1977; Schein 1977). Studies of power and control suggest that power effectiveness increase when supervisors share power and control with their subordinates (Kanter, 1979; Tannenbaum, 1968). There is no direct study examining the effect of control possessed by a supervisor on his/her use of bases of power. There is some indirect evidence (Graham, Charwat, Honing, Wetz, 1951; Reiser, Reeves, Armington, 1955; Worchel, 1957) which indicates that when supervisor has low degree of control, he will use low coercive influence.

In the present research control will be conceptualised in terms of dyads, especially in a superior-subordinate relationship. Degree of control refers to the level to which behaviour of subordinate is regulated by directions of supervisor. As the term control refers to hierarchical control which the supervisor has due to his / her position in the organisation it is expected that supervisor will use more positional power bases like legitimate, reward and coercive to control the behaviour of subordinate. This led to following hypothesis:

**H2:** The degree of control influences the bases of power used by supervisor.

### **Quality of Interaction**

Leader member exchange (LMX) theory suggests that leaders do not use the same style in dealing with all subordinates but rather a different type of relationship or



exchange develops with each subordinate (Dansereau, Graen and Haga, 1975; Graen and Cashman, 1975; Liden and Graen, 1980; Graen, Novak and Sommerkamp, 1982; Graen and Scandura, 1987). Although each leader-member relationship has a unique interaction, theoretically these interactions can be classified into two categories, namely, good and poor quality of interaction. These good and poor quality of interactions also have been described as in- and out- group relationship (Graen and Cashman, 1975) leadership exchange and supervisory exchange respectively (Liden and Graen, 1980) or high and low quality relationship (Graen and Schiemann, 1978).

According to the exchange theory interactions between supervisor and subordinate depend upon how they define their roles in the role development process. Liden and Graen (1980) assert that "in -group members make contributions that go beyond their formal job duties and they take on responsibility for the completion of tasks that are most critical to the successes of the unit ... [and out group members] ... perform the more routine, mundane tasks of the unit and experience a more formal exchange with the supervisors" (Liden and Graen, 1980, p.452).

Once the fact of a unit being differentiated is recognised the next step is the identification of the aspects along which the leader-members interaction differ. Dienesch and Liden (1986) proposed three dimensions. These dimensions take care of the quality of interaction on the work (perceived contribution and loyalty) and off the work (affect). An exchange might be based on only one of the dimensions, two of the dimensions, or on all three. (a) **Perceived Contribution** : Perceived contribution to the exchange includes perception of the amount, direction, and quality of work oriented activity each member puts forth toward the mutual goals (explicit or implicit) of the dyad. (b) **Loyalty**: This concept refers to the extent to which both leader and

member publicly support one another's actions and character. (c) **Affect**: It includes the mutual affection and liking between leader and member based primarily on interpersonal attraction rather than work or professional values.

In the present research quality of interaction between supervisor and subordinates will be operationalized on the bases of the above three dimensions.

There has been little attempt to relate bases of power with quality of interaction. Graen and Cashman (1975) found a difference between in-and-out groups with regard to the leader's use of power. Members and leaders reported greater use of referent and expert power with in-group members than with out-group members. Members, but not leaders, also reported greater use of coercive power with out-group members.

It was hypothesised that:

**H3:** Quality of interaction between the subordinate and his/her immediate supervisor influences the bases of power used by supervisor.

### **Power Distance**

In the present research power distance will be defined in terms of relative influence of supervisors and subordinates or vice versa. It is expected this relative influence will also influence the bases of power used by supervisors for their subordinates.

*Hofstede*  
In Hofstade's survey (1980) coercive autocratic leadership was more common in countries in which power distance between supervisor and subordinate was high, more democratic style was practised in countries in which power distance was low. Singh (1989) also reported that the relative power of managers and non-managers might determine their use of different bases of power to influence each other. Hence:

**H4:** Power distance between subordinate and his/her immediate supervisor influences the bases of power used by the supervisor.

### **Interaction Effects**

It is expected that use of bases of power will vary as a function of the interaction between climate of the organisation and supervisors' degree of control over subordinates. In authoritarian climate a leader wants to keep all decision making power to himself/herself and is concerned with his or her own status and power. So it is assumed that in such climate leaders will like to have high degree of control over their subordinates. In this situation it is expected that supervisor will use positional power bases. Haythorne, Cough, Haefine, Langhan and Carter (1956) found that in two small groups, high authoritarians were rated by others as autocratically telling others what to do and as being insensitive to others' views. In a participative climate leaders delegate decision power to subordinates also which in one way indicates less degree of control over subordinate and use of more personal power bases. In the same way interaction between nurturant task climate and degree of control is assumed to affect bases of power.

The use of bases of power will be a function of the interaction between quality of interaction between supervisor and subordinate and supervisor's degree of control over subordinates. A study (Tedeschi, Schlenker and Lindsold, 1972) reported that use of coercive power is not affected by attraction when the wielder is more powerful than the target. The above study indicates that use of coercive power is more determined by degree of control than by quality of interaction. On the bases of this one can speculate that like coercive, other bases of power also may be function of the interaction between quality of interaction and degree of control.

The use of bases of power may also vary as a function of interaction between other antecedent variables. On the basis of above discussion following hypothesis was framed for empirical investigation:

**H5:** Use of bases of power varies as a function of two-way interactions between climate, degree of control, quality of interaction and power distance.

However, specific hypotheses on two-way interactions of the contextual variables influencing the bases of power may be conceptualised on the basis of generic hypothesis (H5) stated above.

## **Organisational Variables**

### **Main Effects**

#### **Ownership of Organisation**

The following hypothesis is based on differences in public and private sector organisations on different dimensions. Researchers (Pareek, 1985; Perry and Rainey, 1988; and Khandwalla, 1987) have reported that public and private sector organisations differ on the dimensions like funding, ownership, legal and political environment and the criteria for accountability and control. Singh (1989) reported that both managers and non-managers employed coercive power particularly in private banks. In nationalised banks; on the other hand referent power was more effective. Thus:

**H6:** The use of bases of power by supervisor varies according to ownership of organisation.

#### **Nature of Organisation**

The reason to believe that the use of bases of power will vary with the nature of organisation (service and manufacturing) is related to the assumption that these

organisations vary on a number of dimensions like environmental uncertainty/stability, creative/routine task, technical sophistication etc. This led to the following hypothesis:

**H7:** The use of bases of power by supervisor varies according to the nature of organisation.

### **Interaction Effects**

As bases of power are expected to vary according to independent effect of ownership and nature of organisation, it is speculated that these two attributes of organisation will also interactively determine the use of power bases. It was hypothesised that:

**H8:** The use of bases of power by supervisor varies as a function of interaction between ownership and nature of organisation.

### **Demographic Variables**

#### **Main Effects**

##### **Managerial Level of Supervisor**

On the basis of review of literature the following hypothesis was stated:

**H9:** The use of bases of power by supervisor varies according to the managerial level of supervisor.

##### **Managerial Level of Subordinate**

Subordinates belonging to various managerial levels are expected to vary on many dimensions like education, age, year of experience, competence etc. Generally it is assumed that the lower level subordinates are less educated and have less years of experience than middle level subordinates. As described in the review of literature, there are reports that subordinates with less years of experience and low education

level are more influenced by positional power bases. On the other hand, personal power bases influence subordinates with higher level of education. It was, therefore, hypothesised that:

**H10:** The use of bases of power by supervisor varies according to managerial level of subordinates.

### **Interaction Effects**

It is conjectured that when supervisor and subordinate belong to same managerial level there will be less difference in their age, education, experience etc. than when they belong to different levels. Studies have reported supervisors' and subordinates' age, education and experience as significant predictors of use of bases of power by supervisor. So it can be expected that the interaction between managerial level of supervisor and subordinate will also contribute a greater variance to the use of bases of power by supervisor. This expectation can be defined in terms of basic hypothesis:

**H11:** The use of bases of power by supervisor varies as a function of interaction between managerial level of supervisor and managerial level of subordinate.

### **Consequences of Bases of Power**

Kelman (1958) in his analysis of the process of opinion change, suggested that influence may be understood in terms of its consequences for the recipient: either compliance, identification or internalisation. Raven (1974) pointed out the theoretical links connecting Raven's (1965) and Kelman's (1958) influence models. Pellegrini and Rubin (1974) empirically examined these links.

The present study also aimed at examining the effectiveness of influence attempts in terms of consequences suggested by Kelman (1958). In addition this

study investigated the effect of bases of power on subordinates' satisfaction, liking and performance. As well as it examined which bases of power require surveillance for the changed behaviour to be continued.

The motive behind examining these variables was to study them in the context of expanded power/interaction model of interpersonal influence as well as to investigate how the effect of bases of power on these variables is moderated by the contextual variables.

On the bases of review of literature the following hypotheses were framed for empirical verification.

**H12:** Basis of power used by supervisor influences the subordinates' compliance with supervisor.

**H13:** Basis of power used by supervisor influences the subordinates' identification with supervisor.

**H14:** Basis of power used by supervisor influences the subordinates' internalisation with supervisor.

**H15:** Basis of power used by supervisor influences the subordinates' satisfaction with supervisor.

**H16:** Basis of power used by supervisor influences the subordinates' satisfaction with their work

**H17:** Basis of power used by supervisor influences the subordinates' performance.

**H18:** Basis of power used by supervisor influences the subordinates' liking for supervisor.

**H19:** Basis of power used by supervisor influences the importance/need of surveillance.

## Moderating Effects of Contextual and demographic Variables on the Relationship between Bases of power and Outcome Variables

It is expected that effect of bases of power on outcome variables will be moderated by the contextual variables discussed above. This assumption is based on the study conducted by Friedman and Churchill (1987) examining the patient - physician relationship. It was hypothesised in that study (Friedman and Churchill, 1987) that effectiveness of expert, legitimate, referent, and coercive social power behaviours would depend on the riskiness of the medical situation and whether the patient and physician have on going relationship. Results indicated that the effectiveness of expert and legitimate social power bases, in terms of patient satisfaction, compliance, and action, was contingent on the aspects of situation that were manipulated.

On the basis of findings of the above study it is speculated that the effectiveness of the different bases of power used by supervisor should also depend on the aspects of the situation in which interaction between supervisor and subordinate takes place. Since no study has examined the effects of situational aspects on the effectiveness of bases of power in superior - subordinate relationship, no hypothesis of these moderating effects is proposed. It was an exploratory issue in the present research. Along with it how sex of supervisor and sex of subordinate interact with bases of power to influence different outcome variables was also explored.

Chapter 2 describes the sample survey conducted for the present study.



## Chapter 2

# THE SURVEY

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• Bases of Power as a function of the Managerial level of the supervisor  
and of the subordinate

## An Overview

The focus of the survey study was on examining the bases of power working in formal organisations, antecedents (contextual, organisational and demographic) of bases of power and consequences of bases of power. The survey was also aimed at examining how the antecedents of bases of power (contextual) moderate the relationship between bases of power and consequences of bases of power. These relationships are depicted in Figure 2.1.

This chapter is divided into two major sections: (a) Methodology (b) Results and Discussion. The section on methodology is further divided into five subsections: Research site - a brief description of the different types of organisations in which data were collected; Sample - an outline of the characteristics of respondents' biographical data; Procedure adopted in the study; The instrument - a description of the psychometric properties of the measures used; and Statistical analyses - their brief description.

## **METHODOLOGY**

### **The Research Site**

One of the objectives of the study was to investigate the effect of organisation type on the use of bases of power. Nineteen diverse organisations in India were sampled to represent four different types: Public sector service organisations, public sector manufacturing organisations, private sector service organisations and private sector manufacturing organisations. - The service organisations included organisations from the finance sector (bank, insurance and finance company). Three broader

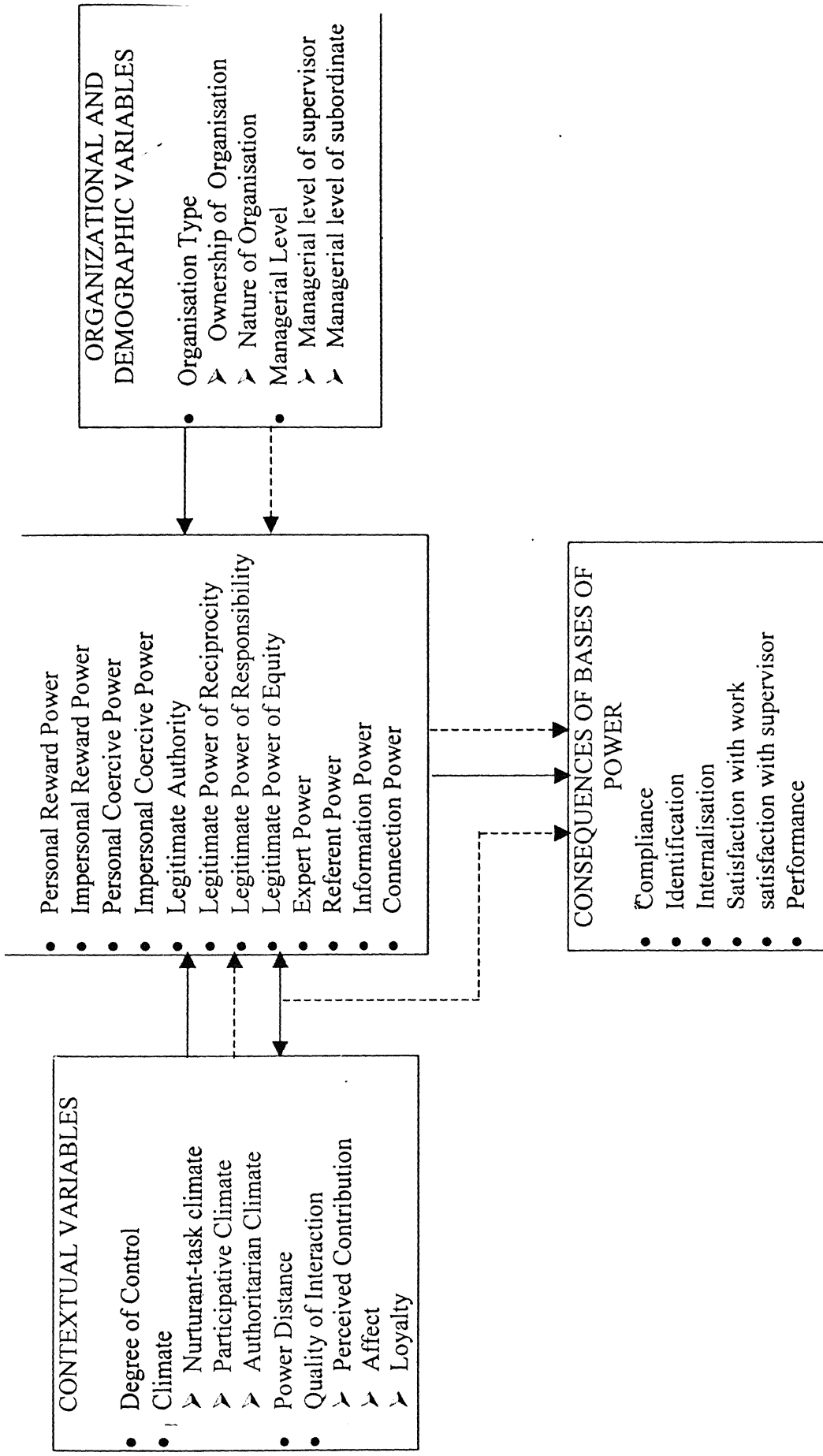


FIGURE 2.1 A Summary of Proposed Relationships between the Antecedents and Consequences of Bases of Power.

Note: —→ Independent Effects; .....→ Interaction Effects; ↔ Interdependence

categories of manufacturing organisations were taken: process industry, textile industry and heavy industry. For the public manufacturing organisations, seven organisations corresponding to the above categories of industries were taken. Six corresponding organisations were taken for private manufacturing organisations. Figures (2.2a and 2.2b) show the classification of organisations selected for the present study in different categories of organisation type. A brief description of the 19 organisations is given in Appendix (Appendix A).

### **Sample**

Four hundred sixty two male executives: 428 subordinates and 34 superiors, representing the 19 organisations participated in the study.

Table 2.1 provides the distribution of the subordinate sample in terms of the management level. As is evident, of the 428 sampled executives, a major bulk (72.20) was drawn from the lower level, while 27.80% were drawn from the middle level of management.

Table 2.2 depicts the percentage distribution of the respondents drawn from the public/private and service/manufacturing organisations. There were 53.50% respondents from the public sector and 46.50 from the private sector enterprise. There were 26.43% of the respondents from the service sector and 73.60% from the manufacturing organisations.

Table 2.3 provides the percentage distribution of the subordinates on demographic variables. The demographic information was not elicited from the supervisors.

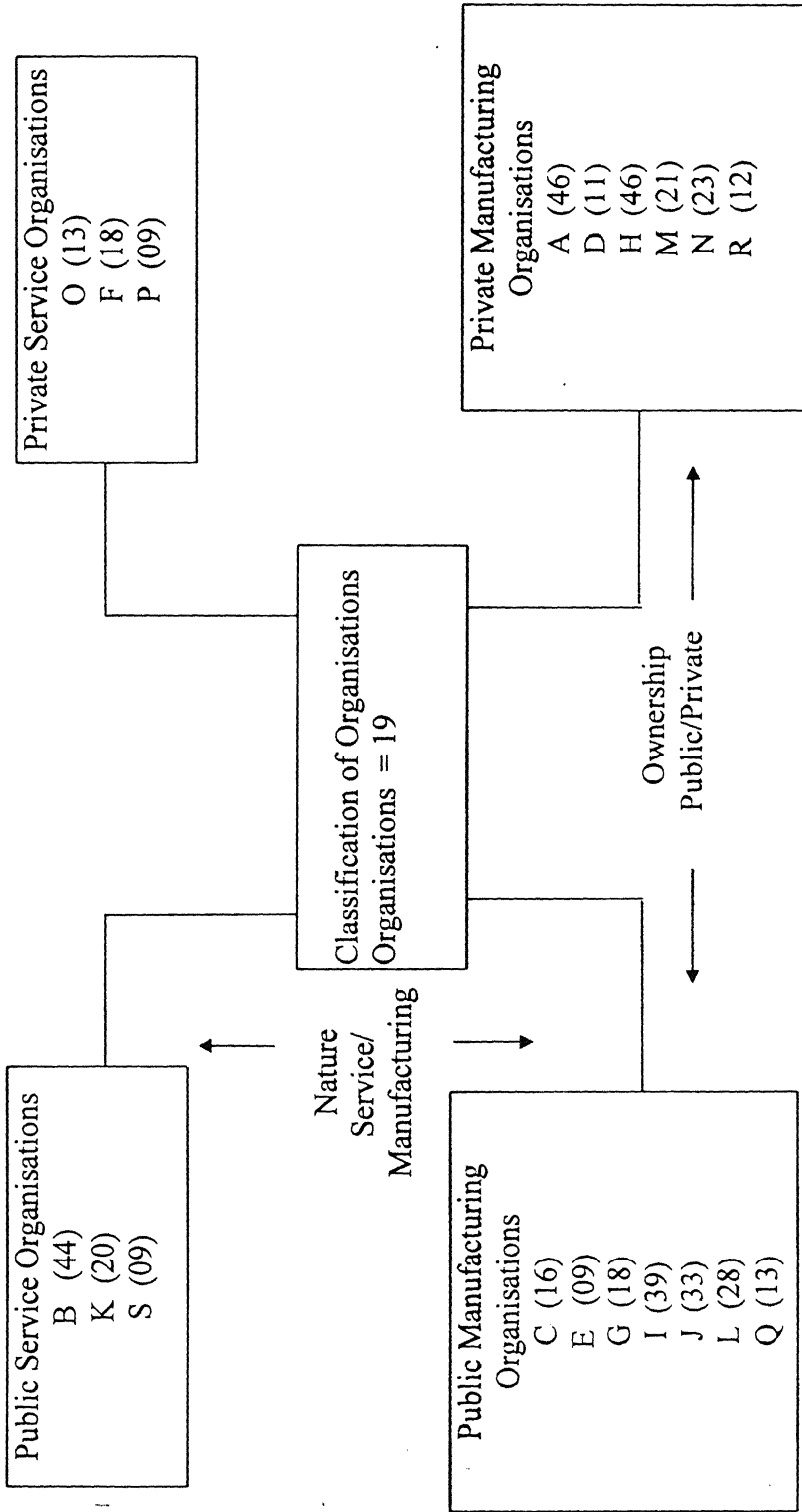


Figure 2.2a The Research Site and Sample

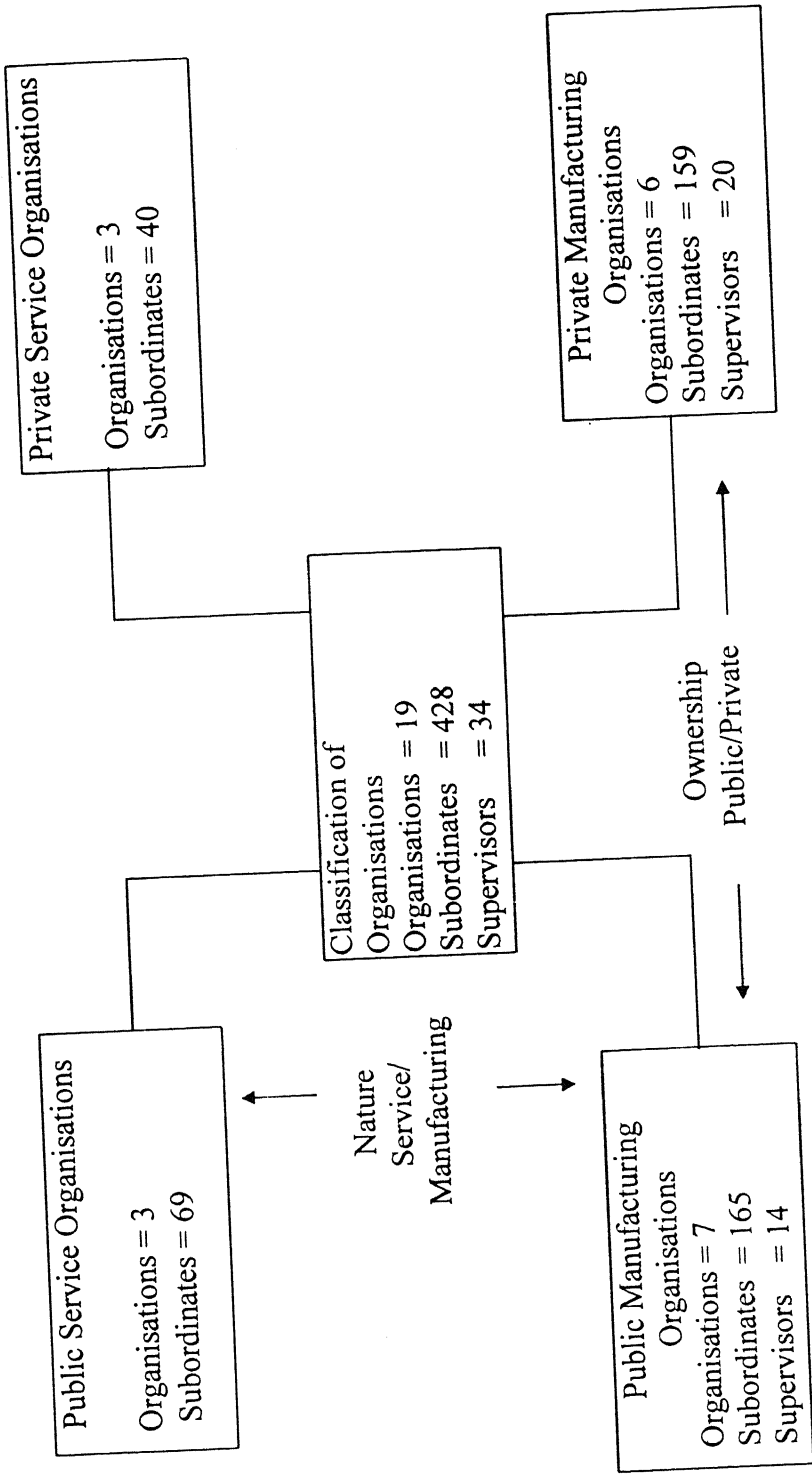


Figure 2.2b The Research Site and Sample

Table 2.1 Organisation Wise Percentage Distribution of The Respondents at Low and Middle Levels of Management (N=428).

Organisations	Management Level		
	Low	Middle	Total
A	9.58	1.17	10.75
B	2.34	7.94	10.28
C	3.27	.46	3.73
D	2.34	.23	2.57
E	2.10	.00	2.10
F	3.50	.70	4.20
G	2.80	1.40	4.20
H	10.51	.23	10.74
I	7.24	1.87	9.10
J	3.98	3.74	7.71
K	4.68	.00	4.68
L	3.50	3.05	6.55
M	2.57	2.34	4.91
N	3.27	2.10	5.37
O	1.87	1.17	3.04
P	2.10	.00	2.10
Q	2.57	.46	3.03
R	2.34	.46	3.03
S	1.66	.50	2.16
Total	72.20	27.80	100.00

The subordinates were asked to give the following demographic information in section VI of the questionnaire.

As can be seen, the maximum numbers of respondents were drawn from the age group that was above 45 years. It may be seen from Table 2.3 that the bulk had education upto post graduation level (48.83%), doctorate level (23.37%) and upto graduation level. Only a small fraction of the respondents had high school



or intermediate level of education (4.68%).

Table 2.2 Percentage Distribution of the Respondents at Low and Middle Levels of Management in Public/Private and Service/Manufacturing Organisations (N=428).

Type of organisations	Management Level				Total
	Low		Middle		
	PU	PR	PU	PR	
Service	8.64	7.48	8.41	1.87	26.43
Manufacturing	25.47	30.61	10.98	6.54	73.60
Total	34.11	38.09	19.39	8.41	100.00

Note: PU = Public organisations; PR = Private organisations

As regards tenure in the present organisation, it may be seen that 36.22% of the respondents had been in the organisation for more than 20 years followed by 19.63% of the respondents, who had been serving the organisation for five to ten years. More than half (61.45%) of the respondents had been working at their present post for five years or less.

With respect to the duration of relationship between the respondents and the immediate superior, it was found that 41.82% of the respondents had a working relationship for 1-2 years followed by 20.92% of the respondents having the relationship for more than 6 years.

With reference to the type of personnel, it was found that 59.11% of the respondents sampled had a non-technical job. As to the earned monthly income, 31.07%

Table 2.3 Percentage Distribution of Respondents at Low and Middle Levels of Management on Some Background Characteristics.

Characteristics	Management Levels		Total
	Low	Middle	
<b>Age (in years)</b>			
less than 30	8.88	1.40	10.28
31-35	11.68	1.87	13.55
36-40	14.02	4.91	18.93
41-45	11.45	5.61	17.06
more than 45	25.70	14.49	40.19
<b>Education</b>			
High School	1.64	.00	1.64
Intermediate	3.04	.00	3.04
Graduation	17.99	5.14	23.13
Post graduation	33.18	15.65	48.83
Doctorate	15.89	7.48	23.37
<b>Tenure in present organisation (in years)</b>			
Less than 5	10.98	2.34	13.32
06-10	15.19	4.44	19.63
11-15	10.75	4.44	15.19
16.20	10.51	5.14	15.65
More than 20	24.30	11.92	36.22
<b>Tenure in present position (in years)</b>			
Less than 5	42.06	19.39	61.45
06-10	16.36	6.78	23.14
11-15	6.78	1.17	7.95
16.-20	3.27	.00	3.27
More than 20	3.27	.93	4.20
<b>Duration of relationship with immediate supervisor (in years)</b>			
1-2	27.10	14.72	41.82
3-4	14.95	3.04	17.99
5-6	8.18	2.10	10.28
More than 6	16.59	4.33	20.92
<b>Functionalization</b>			
Technical	31.78	9.11	40.89
Non Technical	39.95	19.16	59.11
<b>Income (in Rupees)</b>			
Below 6,000	27.80	3.27	31.07
6,001	16.83	7.95	24.78
8,001-10,000	16.35	9.58	25.93
Above 10,001	10.75	7.47	18.22
<b>Number of promotions</b>			
None	10.75	2.10	12.85
1-2	38.32	14.72	53.04
3-4	17.52	7.71	25.23
More than 4	5.14	3.74	8.88

of the respondents had an income of Rs 6,000 or less, while 18.22% had an income above Rs 10,000.

Table 2.4 contains the means and SDs for the two levels of management on background variables. As is evident, the respondents at the two levels differ significantly on all the background variables except the duration of relationship with immediate supervisor.

Table 2.4 Means (SDs) and t-ratios for Background Variables for Low and Middle Levels of Management in the Organisations (N=428).

Variables	Means(SDs)		t-ratio
	Low	Middle	
Age (years)	41.31 (8.52)	44.73 (7.48)	3.84**
Education	3.82 (0.90)	4.08 (0.67)	2.92**
Tenure in present organisation (years)	15.52 (8.48)	17.90 (8.72)	2.48**
Tenure in present position (years)	6.39 (6.16)	4.94 (5.27)	2.27*
Duration of relationship (years)	4.61 (5.13)	3.92 (6.03)	1.18
Income	3.75 (2.27)	5.09 (2.07)	5.66**

Note: Education was rated on five-point scale; the respondents rated Income on 9 - point scale (Item No. 15; Section VI) \*\*p < .01, \*p < .05.

### The Procedure

Organisations were requested to grant permission for obtaining data through questionnaire by survey study. Subsequently the personnel departments were requested for the organisational chart. Only the managers to whom at least two or more subordinates were reporting directly were selected as supervisors. Two or more subordinates working under the same supervisor were randomly picked as the respondents. In some organisations both the supervisors and subordinates were respondents. The supervisors were requested to fill up independent questionnaires for each subordinate working under them.

The respondents were personally contacted and detailed instructions - written

and verbal - regarding how to fill the questionnaire were given. Stressing the importance of frank and sincere responses the respondents were assured complete anonymity of individual responses. On an average, the respondents took about one hour in filling out the questionnaire.

### **The Instruments**

Two questionnaires, one for subordinates and the other for their immediate superior, were prepared. The measures used in these questionnaires were based on studies available in the organisational literature.

The questionnaire for subordinates was divided into six sections (see Appendix B, Questionnaire 1). Section I dealt with measures relating to supervisors' bases of power as perceived by their subordinates. It includes two scales: (a) scale designed for the present study and (b) Raven's Interpersonal Power Inventory (1998) (Inventory was communicated to the author by Raven in 1994 through a faculty at I.I.T. Kanpur). Section II had items relating to perceived climate and the degree of control of the supervisor over the subordinates (respondents). Section III consisted of items related to quality of interaction and power distance between the respondent and his immediate supervisor. Section IV involved items related to outcome variables -- satisfaction with work and satisfaction with supervisor, internalisation with supervisor, identification with supervisor and compliance with supervisor. Items in Section V measured social desirability. Finally, section VI consisted of items assessing the demographic characteristics of the respondents.

The questionnaire for supervisors was divided into three sections (see Appendix B, Questionnaire 2). Section I dealt with measures relating to their (supervisors') bases of power for their subordinate. Section II consisted of items

related to quality of interaction and power distance between the respondent and his subordinate. Section III involved items dealing with the performance evaluation of the subordinates by the supervisor.

In the present analysis, almost all of the measures were subjected to varimax rotated factor analysis. But before subjecting the measures to factor analysis, all items were evaluated on some psychometric criteria: an item was dropped if it satisfied any of the following conditions: (a) item mean less than 2.6 or greater 5.4; (b) standard deviation less than 1; and (c) about zero correlation with 70% items or more.

Nie, Hull, Jenkins, Steinbrenner, and Bent (1975) have described five methods of factoring in the SPSS manual. Of these methods two methods, principal factoring without iteration (PA1) and principal factoring with iteration (PA2) are most commonly used. Principal factoring with iteration (PA2) was used in the present study for all the measures because of two major advantages of PA2 over the PA1 method. (1) PA2 automatically replaces the mean diagonal elements of the correlation matrix with communality estimates. Thus, it automatically gives the so-called inferred factor. (2) PA2 employs an iteration procedure for improving the estimates for communality. The varimax rotation emphasises on cleaning up the factor than variables. For each factor, varimax rotation tends to yield high loading for a few variables and the rest of the loadings in the factor are expected to be near zero. This results in cleaning up the factor.

After computing factor analysis, factors and items for each factor were selected on the basis of following criteria. First, only those factors were retained which had eigen value greater than or equal to 1.00. Further only those items were

retained for a particular factor, which met the criteria of factor loading generally greater than .35 on that factor and no cross loading greater than .25. Those items that loaded heavily (.60) on a particular factor were exempted the criterion of cross loading.

Below is given a description of the measures used in the present study.

### **Bases of Power Measures**

#### **Development of the Scale**

The objective was to develop a multidimensional measure of bases of power that would comprise factorially independent subscales and which would incorporate all possible bases of power proposed by French and Raven (1959), Raven (1965, 1992a, 1993) along with connection power suggested by Hersey, Blanchard and Natelymeyer (1979).

On the bases of conceptualisations of different power bases (described in Chapter 1) 72 items were framed for the different bases of power. The items consisted of statements, each statement describing one of the 12 power bases. Each statement was written on a separate card, the cards were shuffled and a deck of cards was given to twenty-three persons (judges) from different disciplines (Psychology, English, Linguistics, Economics, and Sociology). Fifteen of these persons were faculty members and eight were doctoral students. The judges were given a brief about the various power bases. For the sake of clarity, a working definition of each basis was provided to them. The task of the judges was to sort the various statements, on the basis of their descriptions, as belonging to one of the twelve bases of power. That statement on which there was agreement of 65% or more as belonging to one category was retained as items of that category. On the basis of this piloting

the scale was reduced to 51 items.

The revised scale was administered to 428 subordinates and 34 supervisors. A situation was presented in the scale in which inspite of being initially reluctant, finally subordinates complied with their supervisor. Following these many reasons for subordinates' compliance with supervisor were described. The respondents were asked to indicate on 7-point scale the likelihood of each item as a reason for subordinates' compliance with supervisor (1 = extremely unlikely; 7 = extremely likely).

### **Psychometric Measurements of the Scale**

After meeting the criteria of mean, standard deviation and inter-item correlation (described above) and 42 items out of 51 were subjected to factor analysis as a partial test of the construct validity. The data obtained from the subordinates (N=428) and their immediate supervisors (N = 82, as 34 supervisors responded for 82 subordinates) were pooled (N = 510) to investigate the common factor structure.

The analysis yielded four factors, containing 23 items, explaining a total of 41.8% of variance. The factor loadings are reported in Table 2.5.

This analysis was repeated for the data obtained from subordinates (N=428) which yielded the same four dimensions. In both the perspectives, the first factor explained roughly the same maximum variance (27.6% and 26% for the combined and subordinate data respectively).

The first factor consisted of 8 items. It includes both forms of reward power: personal and impersonal.

The second factor consisted of 4 items. It is a clear factor of legitimate power of reciprocity.

**Table 2.5 Factor Loadings Obtained for Bases of Power Measures (Varimax Rotated Principal Components).**

Items	Factors			
	1	2	3	4
If I did so, then my supervisor would appreciate me more.	<u>.53</u>	.13	.20	.20
If I did so, then my supervisor might do something that would be beneficial to me.	<u>.57</u>	.25	.19	.22
If I did so, then my supervisor would have greater positive feelings toward me.	<u>.54</u>	.16	.19	.22
If I did so then my supervisor might recommend for me a pay raise.	<u>.57</u>	.19	.07	.17
If I did so then my supervisor would like me better.	<u>.59</u>	.27	.16	.01
If I did so, then my supervisor might recommend me for promotion.	<u>.64</u>	.24	.15	.25
If I did so, then my supervisor would have more positive regard toward me.	<u>.65</u>	.21	.19	.07
If I did so, then my supervisor could recommend me for some positive recognition or award.	<u>.72</u>	.22	.17	.11
My supervisor had given me favours in the past, and I felt that I should reciprocate in this way.	.22	<u>.44</u>	.08	.09
My supervisor gave me favourable considerations in the past, so I felt obliged to do this for him now.	.22	<u>.64</u>	.09	.09
My supervisor had done some good things for me in the past, so I returned that favour this time.	.30	<u>.59</u>	.19	.07
I could well remember how helpful he/she was in the past, so I felt obliged to him/her.	.23	<u>.64</u>	.12	.19
If I did not do so, then my supervisor would have negative feeling toward me.	.09	.03	<u>.72</u>	.03
If I did not do so, then my supervisor would reject me personally.	.12	-.01	<u>.44</u>	.03
If I did not do so, then my supervisor would disapprove of me.	.05	.08	<u>.76</u>	-.01
If I did not do so, then my supervisor might recommend me for transfer to an unpleasant place.	.08	.13	<u>.65</u>	-.09
If I did not do so, then my supervisor would angry with me.	.22	.09	<u>.63</u>	-.00
If I did not do so, then my supervisor might block my advancement (e.g. promotion).	.22	.16	<u>.64</u>	-.07
It was clear that my supervisor knew what was best, even if I did not understand.	.06	.03	-.01	<u>.41</u>
My supervisor provided me sufficient information in support of the requested change.	.09	.07	-.23	<u>.45</u>
My supervisor is a well-trained and experienced person, who knows better than I, what procedure to follow.	.04	.07	.08	<u>.70</u>
My supervisor had special knowledge of the specific issue relating to my work procedure.	.12	.06	-.01	<u>.58</u>
My supervisor was more competent than I in judging the method of doing this particular job.	.11	.14	.05	<u>.67</u>
<b>Eigen Value</b>	11.61	2.86	1.78	1.34
<b>Percentage of Variance</b>	27.60	6.80	4.20	3.20

Note: Factor 1 = Reward Power; Factor 2 = Legitimate power of reciprocity; Factor 3 = Coercive Power; Factor 4 = Credibility.



The third factor consisted of 6 items. It includes both forms of coercive power: personal and impersonal.

The fourth factor consisted of 5 items. It has items of both expert and information power. Both the bases of power are related with supervisor's personal ability. It was named as credibility.

Table 2.6 shows the mean, standard deviation and reliability coefficients (Cronbach's coefficient alpha) of the factors and intercorrelations among the four factors. As may be seen, the reliability coefficients are fairly high ranging from .72 to .89. Reliability of the scale ( $\theta$ ) was also computed on the basis of eigen value (Carmines and Zeller, 1993) which was found to be .93. Its interpretation as maximised alpha coefficient for the present study was borrowed from Greene and Carmines (for detail see Carmines and Zeller, 1993). The intercorrelations among the factors are low enough except between reward and reciprocity. The low intercorrelations are an evidence of reasonable level of scale independence; that is they do not appear to limit the subsequent analysis owing to multicollinearity.

Table 2.6 Descriptive Statistics, Reliability Coefficients (Cronbach's Coefficients Alpha and Intercorrelations of Power Factors.

Basis of Power	Power Factor			
	1	2	3	4
1. Reward power	.89			
2. Legitimate power of reciprocity	.63**	.82		
3. Coercive Power	.41**	.33**	.83	
4. Credibility power basis	.35**	.30**	.03ns	.72
<u>M</u>	4.32	3.94	3.39	4.96
<u>SD</u>	1.60	1.81	1.75	1.59
Order of usage	2	3	4	1
Social desirability	-.11	-.13	-.11	-.00

Diagonal entries indicate coefficients  $\alpha$ .

\*\*p < .01, ns = not significant.

## Psychometric Properties

The high reliability coefficients (Cronbach's Coefficient Alpha) of the scales indicate that each scale has very impressive reliability.

The test-retest reliability of the scale was computed from data collected from 45 respondents who completed the measures twice at an interval of a week. These are reported in Table 2.7. The scales were found to have considerable test-retest reliability ranging between .57 and .65.

Table 2.7 Test-Retest Reliability of Bases of Power Measures.

Basis of Power	Reliabilities
1. Reward	.61
2. Legitimate power of reciprocity	.65
3. Coercive	.57
4. Credibility	.58

Note: n = 45.

The convergent validity of the bases of power measures developed for present study was tested in two different ways: (i) The four factors of bases of power measures that emerged in the present study were correlated with the seven bases of power of Raven's Interpersonal Power Inventory. These seven bases of power are based on a very recent study conducted in several universities in California (1998). These are impersonal (reward and coercive), credibility (expert and information), fairness (equity and reciprocity), reference, and personal (reward and coercive). The four factors of power basis scale that emerged in the present study were found to be significantly correlated with respective factors of Raven's Interpersonal Power

Inventory. These are reported in Table 2.8. The average correlation of personal and impersonal dimensions, which include both reward and coercive power bases, with reward power of the present scale was .64 and with coercive power it was .55. Reciprocity was highly correlated with fairness (.72) which consists of reciprocity and equity. Credibility in the present scale was also highly correlated (.67) with credibility in Raven's inventory.

Table 2.8 Relationship between the factors obtained for Bases of Power Scale and those obtained for Raven's Interpersonal Power Inventory Factors (U.S.A) (Subordinates Perspective, N=428).

Factors Obtained for Raven's Interpersonal Power Inventory	Factors Obtained for Bases of Power Scale			
	Reward	Reciprocity	Coercive	Credibility
Impersonal	.65	.51	.64	.12
Credibility	.34	.27	-.04	.67
Fairness	.66	.72	.38	.32
Reference	.55	.46	.18	.42
Personal	.63	.56	.46	.31
Position	.47	.41	.26	.39
Dependence	.34	.24	.12	.29

(ii) The above seven factors of Raven's Interpersonal Power Inventory emerged in a non-Indian culture. There may be cultural variation in the use of bases of power. So in the present study data on Raven's Interpersonal Power Inventory were also collected from the subordinates working in Indian organisations. Three factors emerged for the Raven's Interpersonal Power Inventory: Requit, Coercive and Formal legitimacy. These three were correlated with the four factors of power bases scale developed for the present study. These correlations are reported in Table 2.9. It

may be seen that Reward and Reciprocity power bases of the present scale are highly correlated with Requit of Raven's Interpersonal power Inventory. Requit is the combination of both reward and reciprocity. Coercive power of the present scale is highly correlated with coercive power of Raven's interpersonal power Inventory.

**Table 2.9** Relationship between the factors obtained for Bases of Power Scale and those obtained for Raven's Interpersonal Power Inventory Factors (India) (Subordinates Perspective, N=428).

Factors Obtained for Raven's Interpersonal Power Inventory	Factors Obtained for Bases of Power Scale			
	Reward	Reciprocity	Coercive	Credibility
Requit	.80	.72	.39	.35
Coercive	.39	.34	.67	-.00
Formal Legitimacy	.49	.46	.25	.40

To test the discriminant validity of power scale a combined factor analysis was done for 23 items of bases of power measures and 7 items of satisfaction with supervisor scale. The rationale behind this is that power scales are descriptive measures and satisfaction is effective evaluation, so the subjects should discriminate effective attitude and perceived bases of power (Hinkin & Schriesheim, 1989). Overall the factor analytic results appeared supportive of the discriminant validity of power measures. None of the individual power items demonstrated inappropriate loading. The factor loadings are reported in Table 2.10.

The obtained item-loading patterns are thus supportive of the relative freedom of the power scale from substantial contamination by affective evaluation.

The low correlation of four power bases with the social desirability (Table 2.6) scale show that the factors are weakly related or completely unrelated to social

desirability. This fact may be taken as partial evidence that the item responses were free from social desirability effect.

Table 2.10 Factor Loadings Obtained for Bases of Power and Satisfaction with Supervisor Measures (Varimax Rotated Principal Components).

Items	Factors			
	1	2	3	4
If I did so then my supervisor would appreciate me more.	<u>.59</u>	.07	.16	.13
If I did so, then my supervisor might do something that would be beneficial to me.	<u>.59</u>	.09	.17	.23
If I did so, then my supervisor would have greater positive feelings towards me.	<u>.61</u>	.03	.13	.19
If I did so, then my supervisor might recommend for me a pay raise.	<u>.54</u>	-.02	.08	.28
If I did so, then my supervisor would like me better.	<u>.72</u>	.00	.12	.18
If I did so, then my supervisor might recommend me for promotion.	<u>.63</u>	.10	.14	.24
If I did so, then my supervisor would have more positive regard towards me.	<u>.67</u>	.06	.20	.15
If I did so, then my supervisor could recommend me for some positive recognition or award	<u>.68</u>	.07	.18	.20
The supervision I receive encourages me to put in extra efforts.	.05	<u>.69</u>	-.01	.06
I feel confident my supervisor supports when I make a decision.	.09	<u>.72</u>	-.04	.01
The way I am supervised makes me want to stay in this job.	.02	<u>.59</u>	-.09	.01
My supervisor is fair in his/her dealing with me.	.11	<u>.78</u>	.16	-.03
I get along well with my supervisor.	.05	<u>.60</u>	-.09	.07
* The way I am supervised makes me think seriously about quitting or asking for transfer.	-.11	<u>.46</u>	-.16	.00
All things considered, I am pleased with the way I am supervised.	.06	<u>.75</u>	-.08	.12
If I did not do so, then my supervisor would reject me personally.	.15	-.13	<u>.39</u>	.04
If I did not do so, then my supervisor would have negative feelings toward me.	.13	-.13	<u>.39</u>	.04
If I did not do so, then my supervisor would disapprove of me.	.09	-.15	<u>.73</u>	.09
If I did not do so, then my supervisor might recommend me for transfer to an unpleasant place.	.06	-.09	<u>.65</u>	.11
If I did not do so, then my supervisor would be angry with me.	.23	-.09	<u>.62</u>	.04
If I did not do so, then my supervisor might block my advancement (e.g. promotion).	.21	-.06	<u>.69</u>	.11
My supervisor gave me favourable considerations in the past, so I felt obliged to	.31	.05	.07	<u>.68</u>

do this for him now.				
My supervisor had done some good things for me in the past, so I returned that favour this time.	.37	-.02	.17	<u>.60</u>
I could well remember how helpful he/she was in the past, so I felt obliged to him/her	.26	.09	.11	<u>.65</u>
<b>Eigen Value</b>	6.8	4.3	1.48	1.12
<b>Percentage of Variance</b>	22.2	13.9	4.80	3.60

Note: Factor 1 = Reward power; Factor 2 = Satisfaction with supervisor; Factor 3 = coercive power; Factor 4 = Legitimate Power of Reciprocity.

\* Reverse coding was done for this item.

### Climate Measures

Climate was conceptualised in terms of the leadership style of the supervisor. The scale was taken from Sinha (1980). It consisted of 30 items representing three styles: authoritarian, participative, and nurturant task. There were 10 items in each subscale. The respondents were asked to evaluate the climate in terms of their immediate superior behaviour on a 7-point scale by deciding the frequency with which the statements were true for the behaviour of their immediate superior (1 = never, 7 = always).

After meeting the criteria of mean, standard deviation and correlations (described above) 23 items out of 30 were subjected to factor analysis. Two factors emerged explaining a total of 41.3% of the variance. The factor loadings are reported in Table 2.11.

The first factor, nurturant task (NT) climate, consisted of five items emphasising the task-oriented attitude of the subordinate and close observation by the supervisor.

The second factor, participative climate, consisted of four items emphasising

the equal treatment of all subordinates, informal relations with them and joint decision of supervisor and subordinates.

Tables 2.12 show the descriptive statistics and reliability coefficients of and inter correlation between the factors. As may be seen, the reliability coefficients are sufficiently

Table 2.11 Factor Loadings Obtained for Climate Measures (Varimax Rotated Principal Components).

Items	Factors	
	1	2
He/she gladly guides and directs those subordinates who work hard.	<u>.61</u>	.12
He/she encourages his/her subordinates to assume greater responsibility on the job, as they become experienced.	<u>.43</u>	.17
He/she kind towards only those subordinates who work sincerely.	<u>.55</u>	.39
He/she keeps an eye on what his/her subordinates do.	<u>.51</u>	.09
He/she feels good when he/she finds his/her subordinates eager to learn.	<u>.48</u>	.25
He/she treats his/her subordinates as equal.	.13	<u>.35</u>
He/she is in habit of mixing freely with his/her subordinates.	.13	<u>.35</u>
He/she goes by joint decision of his/her group	.03	<u>.41</u>
He/she often takes tea/coffee with his/her subordinates.	-.03	<u>.49</u>
<b>Eigen Value</b>	8.37	1.12
<b>Percentage of Variance</b>	36.40	4.90

Note: N = 428; Factor 1 = Nurturant task climate; Factor 2 = Participative climate.

Table 2.12 Descriptive statistics, Reliability Coefficients (Cronbach's Coefficients Alpha), and Intercorrelations for climate Measures.

Climate	Factor	
	1	2
1. Nurturant-task	.78	
2. Participative	.53**	.72
<u>M</u>	5.26	4.40
<u>SD</u>	1.49	1.69

Note: Diagonal entries indicate coefficients  $\alpha$

\*\*  $p < .01$

high. Theta (maximised alpha coefficient) for the scale was found to be .92. The intercorrelations between the factors are somewhat high; the reason for which could be that on the continuum of leadership, nurturant-task and participative styles lie side by side.

### Quality of Interaction Measures

The scale to measure the quality of interaction of subordinates with their immediate supervisor and vice versa was based on Tandon (1990) and Liden and Maslyn (1993). The scale consisted of 18 items, representing three dimensions of quality of interaction: perceived contribution, affect and loyalty, with 7,6, and 5 items for each dimension respectively. The respondents were asked to evaluate on a 7-point scale the degree to which each item was true for his/her interaction with his or her supervisor/subordinate (1 = not at all; 7 = very much).

After meeting the criteria of mean, standard deviation and correlations (described above), 15 items out of 18 were subjected to factor analysis for both the combined data (for subordinates (N=428) and their immediate supervisors (N=82, as 34 supervisors responded for 82 subordinates), N=510) and subordinate's data



(N=428). From both analyses, two neat factors containing 10 items emerged explaining a total of 59.5% of variance. The factor loadings are reported in Table 2.13

Table 2.13 Factor Loadings Obtained for Quality of Interaction Measures (Varimax Rotated Principal Component).

Items	Factors	
	1	2
How much responsibility does he/she take for the job that is to be done jointly by the two of you?	<u>.68</u>	.26
How much is his/her contribution to the quantity of solution on the jobs that are to be done together by the two of you?	<u>.74</u>	.29
How much efficient is his/her contribution to the jobs for which the two of you work together?	<u>.68</u>	.32
How useful is his/her effort on the jobs that are to be done together by the two of you?	<u>.74</u>	.26
How much time does he/she spend on the jobs that are to be done together by the two of you?	<u>.67</u>	.20
How much initiative does he/she take in solving the problems that are to be done together by the two of you?	<u>.79</u>	.22
How much is his/her contribution to the quality of solutions on the jobs that are to be done together by the two of you?	<u>.78</u>	.19
How much would you like to keep in touch with each other even if you were not working in the same organisation?	.27	<u>.54</u>
How much importance do you attach to each other's advice on personal matters?	.08	<u>.73</u>
How much do you help each other in personal matters?	.16	<u>.69</u>
<b>Eigen Value</b>	6.42	1.01
<b>Percentage of Variance</b>	42.80	6.70

Note: Factor 1 = Perceived Contribution; Factor 2 = Affect

The first factor, perceived contribution, consisted of seven items. All these items were related to the contribution on the job, and so the factor was called perceived contribution (PC). The contribution was evaluated in terms of responsibility taken quantity and quality of solution, efficiency, usefulness, time spent, and initiativeness.

The second factor, affect (AF), consisted of three items. The items were related with mutual liking, seeking advice and asking for help in personal matters.

Table 2.14 shows the descriptive statistics and reliability coefficients (Cronbach's coefficients alpha) of and intercorrelations between the two factors. As can be seen, the reliability coefficients are sufficiently high. Theta (maximised alpha coefficient) was found to be .90. The two subscales are moderately intercorrelated.

Table 2.14 Descriptive Statistics, Reliability Coefficients (Cronbach's Coefficients Alpha), and intercorrelations for Quality of Interaction Measures.

Quality of Interaction	Factors	
	1	2
1. Perceived Contribution	.91	
2. Affect	.46**	.71
<u>M</u>	5.12	4.54
<u>SD</u>	1.42	1.68

Note: Diagonal entries indicate coefficients  $\alpha$ .

\*\*  $p < .01$ .

### Degree of Control Measures

The scale to measure the extent or degree of control of the immediate supervisor on his/her subordinates was borrowed from Lakhtakia (1990) (see Appendix B, Questionnaire 1, Section II, Set-2). The scale consisted of 7 items.

Respondents (subordinates) were asked to judge on 7-point scale the degree to which each statement was true to their relationship with immediate supervisor (1 = never; 7 = always). Factor analysis of the scale revealed a single factor with an Eigen value of 2.86 and explaining a total of 40.9% of the variance. All seven items were significant and had factor loadings of .52, .45, .63, .57, .63, .58, and .52. The scale showed a reliability coefficient (Cronbach Coefficient Alpha) of .75. The mean and standard deviation on the scale were 4.56 and 1.51 respectively.

### **Power Distance Measures**

A scale consisting of six items was developed to measure the power distance between subordinate and his/her immediate supervisor (see Appendix B, Questionnaire 1, Sect 111, Set-2). The basic interest was in investigating (a) whether the supervisors and subordinates actually differ on influencing each other, (b) whether there should be difference in influence, and (c) whether there is a difference in influencing the opinion of one by the other. Two items, one for subordinate's influence on the supervisor and the other for supervisor's influence on the subordinate, for each category were framed. The respondents were asked to indicate on a 7-point scale the degree of their influence on their immediate supervisor and vice versa (1 = not at all; 7 = very much). The power distance scores were obtained by subtracting the subordinates' influence from the supervisors' influence for each category of influence. The mean power distance scores were found to be -.175, -.479, and -.201 indicating that there was negligible relative influence of one over the other and that there was no power distance between supervisor and subordinate. Hence no further statistical analyses of the data related to this measure was carried out.

### Compliance with Supervisor Measures

The scale to measure subordinates' compliance with their immediate supervisor consisted of eight items. Four items were taken from Rahim (1988) and the remaining four items were developed in the same framework. The respondents were asked to indicate on 7 - point scale the degree of disagreement and agreement with each statement (1 = strongly disagree; 7 = strongly agree).

After meeting the criteria of mean, standard deviation and correlations, four items out of eight items were subjected to factor analysis with an eigen value 2.84 and explaining. The factor loadings are reported in Table 2.15

The factor analysis yielded a single factor with eigen value 2.84, explaining 70.9% of variance. . The scale showed a reliability coefficient (Cronbach Coefficient Alpha) of .86. The mean and standard deviation of the scale were 5.27 and 1.58 respectively.

**Table 2.15** Factor Loadings Obtained for Compliance with Supervisor Measures (Varimax Rotated Principal Component).

<b>Items</b>	<b>Factor</b>
I like to do what my supervisor suggests.	.64
I want to work according to my supervisor's wishes.	.82
I prefer to do work as my supervisor asks me to do.	.86
I do work according to my supervisor's wishes.	.81
<b>Eigen Value</b>	2.84
<b>Percentage of Variance</b>	70.90

### **Identification with Supervisor Measures**

Identification with supervisor was measured with two items describing the supervisor as a great person and feeling a sense of pride working under him (see Appendix B, Questionnaire 1, Section IV, Set-1). Subjects were asked to indicate on 7-point scale the degree of their disagreement and agreement with each statement (1 = strongly disagree; 7 = strongly agree). The items were highly correlated (.67,  $p < .05$ ). The scale showed a reliability coefficient (Cronbach Coefficient Alpha) of .80. The mean and standard deviation of the scale were 5.02 and 1.71 respectively.

### **Internalisation with Supervisor Measures**

Internalisation with supervisor means how much a subordinate will privately accept his supervisor's ideas and views. It was measured with two items (see Appendix B, Questionnaire 1, Sect. IV, Set-1). Respondents were asked to indicate on 7-point scale the degree of agreement and disagreement with each statement (1 = strongly disagree; 7 = strongly agree). The correlation between items was considerable and significant (.44,  $p < .05$ ). The scale showed a reliability coefficient (Cronbach's coefficient Alpha) of .60. The mean and standard deviation of the scale were 4.79 and 1.71 respectively.

### **Satisfaction with Supervisor Measures**

The scale consisting of 10 items was developed to measure the subordinates' satisfaction with their immediate supervisor. Respondents were asked to indicate on 7-point scale the degree of their agreement or disagreement with each statement (1 = Strongly disagree; 7 = strongly agree). The statements were related with possible feelings that individuals might have for their immediate supervisor. After testing the criteria of mean, standard deviation and correlation 7 items out of 10 were subjected

to factor analysis which yielded a single factor with eigen value 3.76, explaining 53.7% of variance. Factor loadings are reported in Table 2.16.

**Table 2.16 Factor Loadings Obtained for Satisfaction with Supervisors measures (Varimax Rotated Principal Component).**

<b>Items</b>	<b>Factor</b>
The supervision I receive encourages me to put in extra efforts.	.72
I feel confident of my supervisor's support when I make a decision.	.74
The way I am supervised makes me want to stay in this job.	.61
My supervisor is fair in his/her dealing with me.	.81
I get along well with my supervisor.	.63
* The way I am supervised makes me think seriously about quitting or asking for transfer.	.44
All things considered I am pleased with the way I am supervised	.77
<b>Eigen Value</b>	3.76
<b>Percentage of Variance</b>	53.70

\* reverse coding was done for this item.

The scale showed a reliability coefficient (Cronbach Coefficient Alpha) of .85. The mean and standard deviation of the scale were 5.24 and 1.66 respectively.

### **Satisfaction with Work**

A scale consisting of six items was developed to measure the subordinates' satisfaction with their work (see Appendix B, Section IV, Set-1). Respondents were asked to indicate on 7 - point scale the degree of their agreement and disagreement with each statement (1 = strongly disagree; 7 = strongly agree). Responses obtained did not satisfy any of the psychometric criteria of item selection. Hence in spite of being a significant outcome of bases of power as has been reported in

iterature, satisfaction with work was not further analysed.

### **Performance Measures**

The scale to measure the performance of the subordinates consisted of 11 items (see Appendix B, Questionnaire 2, Section 111). These items were related with the different abilities of the subordinates necessary to work efficiently in the organisation, their quality and quantity of work and their motivation to work hard etc. Respondents were the immediate supervisors of the subordinates. The respondents were asked to rate on 7-point scale the performance of each subordinate individually, working under him/her (1= very low; 7 = very high). Factor analysis yielded one clear factor with an eigen value of 10.09 and explaining a total of 91.7% of variance. All items were significant and had factor loadings of .94, .95, .95, .92, .96, .96, .97, .96, .95, .96 and .97. The scale showed a reliability coefficient (Cronbach's Coefficient Alpha) of .94. The mean and standard deviation of the scale were 5.21 and .90 respectively.

### **Personal Data Blank**

Items were included to assess various demographic characteristics and job related data of the respondents as age, education, time of first job, designation, designation of immediate supervisor, tenure in present organisation, position, work experience with present supervisor, number of promotions, number of job change, success, monthly income, hierarchical level and whether the respondent was a technical or non technical worker.

Table 2.17 summarises the descriptive statistics (mean and standard deviation) and reliability coefficients of all the measures used in the present study.

Table 2.17 Descriptive Statistics (Means and SDs) and Reliability Coefficients (Cronbach's coefficients Alpha) for all the Measures.

Measures	No. of items	M	SDs	$\alpha$
Bases of Power				
Reward	8	4.32	1.60	.89
Reciprocity	4	3.94	1.81	.82
Coercive	6	3.39	1.75	.83
Credibility	5	4.96	1.59	.72
Climate				
Nurturant-task	5	5.26	1.49	.78
Participative	4	4.4	1.69	.72
Degree of Control	7	4.56	1.51	.75
Quality of Interaction				
Perceived Contribution	7	5.12	1.42	.91
Affect	3	4.54	1.68	.71
Compliance with Supervisor	4	5.27	1.58	.86
Identification with Supervisor	2	5.02	1.71	.80
Internalisation with Supervisor	2	4.79	1.62	.60
Satisfaction with Supervisor	7	5.24	1.66	.85
Performance	11	5.21	.90	.94

Table 2.18 presents intercorrelations among all the measures. It is evident that almost all the intercorrelations are in the weak to moderate range.

### Statistical Analysis

Some preliminary analysis was conducted to examine the psychometric properties of the measures employed in the study. Most of the measures were subjected to a varimax rotated factor analysis to conduct a partial test of construct validity. During the preliminary analysis correlations (Pearson's  $r$ ), Cronbach's coefficients alpha and descriptive statistics (such as mean and standard deviations) were also computed.



Table 2.18 Intercorrelation between the Measures.

	RW	RC	CO	CR	NT	PT	DC	PC	AF	SS	IT	IN	COM	PRF
RW														
RC	.64*													
CO	.39*	.27*												
CR	.35*	.33*	.00											
NT	.24*	.13*	-.14*	.44*										
PT	.16*	.10*	-.16*	.25*	.53*									
DC	.26*	.19*	.01	.37*	.61*	.41*								
PC	.18*	.18*	-.22*	.43*	.62*	.45*	.50*							
AF	.10*	.12*	-.16*	.15*	.31*	.32*	.20*	.46*						
SS	.12*	.11*	-.24*	.38*	.64*	.48*	.40*	.68*	.41*					
IT	.26*	.26*	-.08	.32*	.46*	.38*	.43*	.47*	.40*	.61*				
IN	.24*	.21*	-.12*	.45*	.55*	.39*	.46*	.64*	.42*	.74*	.62*			
CO	.29*	.25*	.01	.35*	.33*	.21*	.32*	.41*	.27*	.49*	.43*	.48*		
PRF	-.04	-.09	-.15*	.10	.12	-.00	-.00	-.07	.00	.16*	.01	.08	.14*	

Note: RW = Reward Power; RC = Legitimate Power of Reciprocity; CO = Coercive Power; CR = Credibility Power Basis; NT = Nurturant Task Climate; PT = Participative Climate; DC = Degree of Control; PC = Perceived Contribution; AF = Affect; SS = Satisfaction with Supervisor; IT = Internalisation; ID = Identification; COM = Compliance; SD = Social Desirability; PRF = Performance. (N = 208 for performance, 428 for all other measures.

\*\*p<. 01, \*p<. 05.

### Moderated Multiple Regression Analysis (MMRA)

Theories in psychology posit that the relationship between two variables (independent and dependent) is moderated by another independent variable or two independent variables interact so that the effect of one independent variable on dependent variable depends on the level of the other. Interactions between categorical variables are examined by using analysis of variance. Saunders (1955, 1956) developed a methodology for testing interactions or moderator effects for continuous variables known as "Moderated Multiple Regression" (MMRA). On the basis of several independent evaluations (Cleary, 1968; Cohen & Cohen, 1983; Friedrich, 1982; Saunders, 1956; Stone, 1988; Stone & Hollenbeck, 1984, 1989; Zedeck, 1971) MMRA has been found to be an appropriate method for detecting the effects of moderator variables. In a recent review by Sackett and Wilk (1994), it was concluded

hat MMR is the most pervasively used statistical technique for assessing differential prediction in organisational and educational settings.

MMR analysis involves comparison of two regression equations. The first regression equation tests the additive model of the main effects of predictor (X) and moderator (Z) variables on the criterion variables (Y), such that:

$$Y = a + b_1 X + b_2 Z + e \quad (1)$$

The second equation tests the main as well as the interaction effects of predictor and moderator variables (X\*Z) on the criterion variable. That is,

$$Y = a + b_1 X + b_2 Z + b_3 X * Z + e \quad (2)$$

To test for the statistical significance of the interaction between x and z, the coefficient of determination ( $R^2$ ) is computed for each equation separately, and an F-statistic that tests for the difference between the two R squares is computed. The F-statistic (distributed with  $k_2 - k_1$  and  $N - k_2 - 1$  degrees of freedom) is computed using the formula

$$F = [(R_2^2 - R_1^2) / (k_2 - k_1)] / [(1 - R_2^2) / (N - k_2 - 1)] \quad (3)$$

Here  $k_2$  is the number of predictor variables in Equation 2,  $k_1$  is the number of predictor variables in Equation 1, and  $N$  is the total sample (Aguinis, 1995). It has been shown that in the presence of interactions, main effects represent the average effects of a variable across relevant levels of other variables (Aguinis, Nesler, Lee, and Tedeschi 1996; Overall, Lee and Hornick, 1981). Hence it is meaningful to explain the interaction effects before the main effects. Following Aguinis, et.al, (1996) in this thesis the results of interaction effects are discussed before the main effects in this report.

Significant interactions were further analysed graphically. Scores with  $\pm$

standard deviation from the means were plotted (Hunt, Osborn, and Larson, 1975). While plotting the curves, the mean scores were divided by the number of items in order to maintain consistency across figures. It needs to be mentioned that the graphical representations show the direction of the interaction effects, which is not shown by the beta weights. For the purpose of the graphical representation, the data are grouped into qualitative categories (low and high in the present study). Thus, it is possible that despite the beta weights being significant, the interaction might not visually appear significant. The reason for this is that interaction is not a "discontinuous qualitative variable that differentiates subgroups of individuals who are qualitatively different but is a continuous quantitative variable" (Zedeck, 1971, p.305).

### **Analysis of Variance (ANOVA)**

ANOVA was used to examine the variations of power bases across organisation type [categorised as public/private (ownership) and service/manufacturing (nature)] and across managerial levels (ML) of the subordinate (middle/lower) and the supervisor (top/middle).

## **RESULTS AND DISCUSSION**

This section is divided into four subsections. The first subsection deals with the effects of contextual variables on bases of power. The second subsection is concerned with the effects of bases of power on outcome variables. The third subsection attempts to examine the moderating effects of contextual variables on the relationship between bases of power and outcome variables. The fourth subsection describes the effects of organisational and demographic variables on bases of power.

## **Effects of Contextual Variables on Bases of Power**

The focus of the present research was on examining the effects of some contextual variables (i.e., climate, degree of control and quality of interaction) on bases of power. Moderated multiple regression analysis (MMRA) was used to examine the relationship between bases of power and contextual variables with contextual variables as predictor and bases of power as criterion variables. Results of MMRA for different bases of power are presented in Tables 2.19- 2.22. Mean scores for significant interactions between contextual variables for bases of power are reported in Appendix C (Table C1 to Table C5).

### **Reward Power**

The results showed that both the main effects and interaction effects of the contextual variables were significant for reward basis of power (Table 2.19). Main effects of the contextual variables explained 8% of the variance. After entering the two-way interactions of contextual variables into regression equation, 11% of the variance in reward basis of power was explained by the main and interaction effects of contextual variables.

As discussed in section 1, the interaction effects are explained below before taking up the main effects. This pattern is followed for all regression analyses. The interaction effects are plotted by taking the variables not showing main effects to be significant as the moderator variables and plotted on the horizontal axis.

Table 2.19 Regression of Reward Basis of Power on Climate, Degree of Control and Quality of Interaction.

Step	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
Variables					
I. Main Effects				.08**	.08**
NT	-.76	-.38	1.82		
PT	.27	.11	.15		
DC	.57	.40	2.87		
PC	1.41	1.00	9.72**		
AF	-.30	-.09	.12		
II. Interaction Effects				.11**	.03**
NT*DC	.03	.79	2.97		
NT*PC	-.01	-.26	.26		
NT*AF	.05	.36	.94		
PT*DC	-.01	-.11	.10		
PT*PC	.01	.14	.15		
PT*AF	-.04	-.20	.64		
PC*DC	-.03	-1.27	7.13**		
AF*DC	.02	.19	.26		
PC*AF	-.03	-.28	.88		

Note: Intercept = 9.46. NT = Nurturant task climate; PT = Participative climate; DC: Degree of Control; PC= Perceived contribution; AF = Affect.

For numerical values: \*\* p < 0.01. \* p < 0.05.

### Interaction Effects

Only one interaction between contextual variables was found to be significant

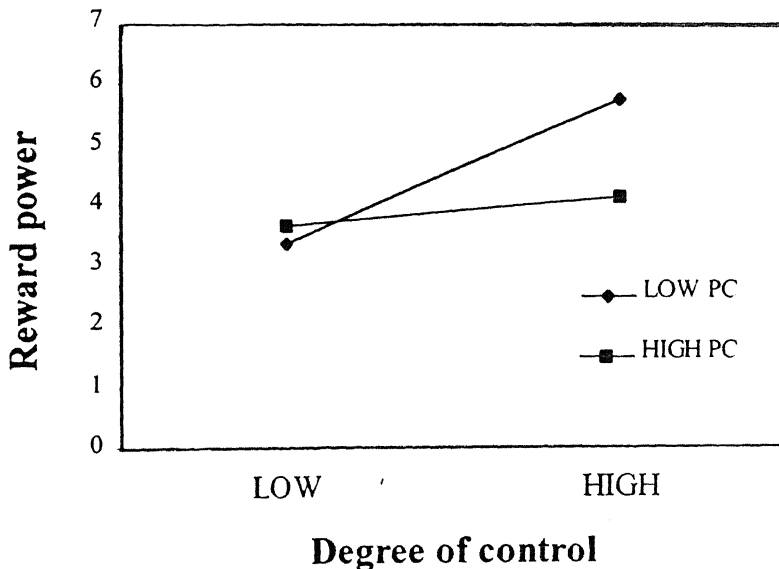


Figure 2.3 Reward power as a function of perceived contribution (PC) and degree of control.

or reward basis of power. It pertains to degree of control and quality of interaction on the dimension of perceived contribution. Figure 2.3 shows that the effect of quality of interaction (perceived contribution) is contingent upon the supervisors' degree of control over subordinates'. More specifically when degree of control is low, there is no noticeable difference between high and low perceived contribution ratings on reward power. However, when degree of control is high, there is visible difference between high and low perceived contribution such that low perceived contribution is associated with higher reward power ratings than high perceived contribution.

### **Main Effects**

The results showed that the perceived contribution is the only predictor for reward basis of power. The two were found to be positively associated with each other ( $\beta = 1.00$ , Table 2.19). This finding coincides with the findings of a recent study (Thibodeaux, III and Lowe, 1996) in which high and low quality of interactions were described as in-and-out group relationship. Thibodeaux and Lowe reported that supervisor uses greater reward power for in-group members than for out-group members. This support the findings of the present study indicating higher the quality of interaction higher the use of reward power, and lower the quality of interaction lower the use of reward power. On the other hand another study (Graen and Cashman, 1975) reported no difference in the use of reward power for in- and out-group members.

### **Legitimate Power of Reciprocity**

Table 2.20 depicts the results of MMRA where the legitimate power of reciprocity was the criterion variable and contextual variables were the predictor variables. The results showed that both the main and interaction effects of contextual

variables were significant for legitimate power of reciprocity power. The variance explained by the main and interaction effects of contextual variables for legitimate power of reciprocity were 5% and 4% respectively.

### Interaction Effects

Two interactions were found to be significant between contextual variables for legitimate power of reciprocity. These interactions pertain to quality of interaction and degree of control pairs.

Table 2.20 Regression of Legitimate Power of Reciprocity Power Basis on Climate, Degree of Control and Quality of Interaction.

Step Variables	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
I. Main Effects				.05**	.05**
PT	-.35	-.31	1.12		
DC	-.40	-.28	.98		
PC	.09	.11	.22		
AF	.87	1.07	11.02**		
	.08	.04	.02		
II. Interaction Effects				.09**	.04**
NT*DC	.02	.77	2.75		
NT*PC	.00	-.03	.00		
NT*AF	.03	.44	1.39		
PT*DC	.01	.32	.81		
PT*PC	.01	.29	.63		
PT*AF	-.03	-.31	1.24		
PC*DC	-.03	-1.62	11.22**		
AF*DC	.04	.82	4.84*		
PC*AF	-.01	-.17	.29		

Note: Intercept = 6.61. NT = Nurturant task climate; PT = Participative climate; DC = Degree of Control; PC = Perceived contribution; AF = Affect.

For numerical values: \*\* p < 0.01, \* p < 0.05.

Figure 2.4a shows that the impact of perceived contribution on legitimate power of reciprocity is contingent upon degree of control. There is no perceptible

ifference between the effects high and low perceived contribution ratings on legitimate power of reciprocity at low degree of control. However, when degree of control is high low perceived contribution is associated with more legitimate power of reciprocity than high perceived contribution.

Figure 2.4b indicates that the relationship between legitimate power of reciprocity and affect is moderated by degree of control. There is a conspicuous difference between high and low affect at high degree of control in such a way that low affect is associated with more legitimate power of reciprocity than high affect. However, at low degree of control there is no such difference between high and low affect ratings on legitimate power of reciprocity.

### **Main Effects**

The results showed that main effect of perceived contribution was significant for reciprocity power basis. The two were found to be positively associated with each other ( $\beta = 1.07$ , Table 2.20). The reason for the use of high legitimate power of reciprocity for subordinates having high quality of interaction with the supervisor may be explained on the basis of type of relationship between subordinate and supervisor. Danserrau et.al (1975) have conceptualised the in-group or high quality of exchange as follows:

"The superior for his part can offer the outcomes of job latitude, influence in decision-making, open and honest communications, support of the members' actions and confidence in and consideration for the members, among others. The member can reciprocate with greater than required expenditures of time and energy, the assumption of greater responsibility and commitment to the success of entire unit or organisation among others."



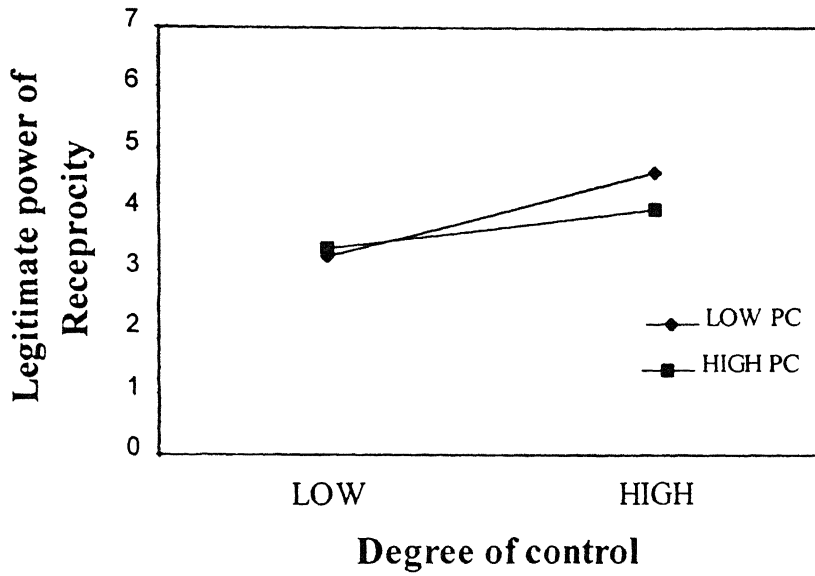


Figure 2.4a Legitimate power of reciprocity as a function of perceived contribution (PC) and degree of control.

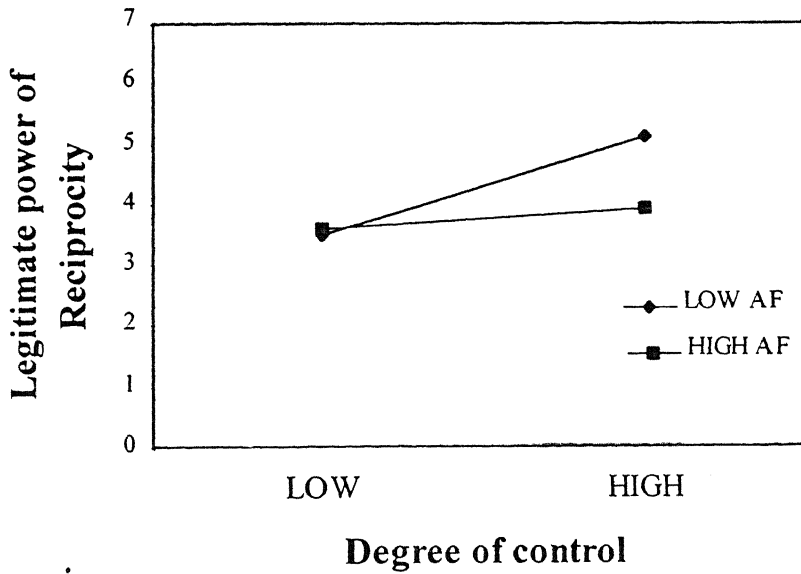


Figure 2.4b Legitimate power of reciprocity as a function of affect (AF) and degree of control.

Thus interaction between supervisor and subordinate in high quality of interaction is based on mutual reciprocation which may be stated as the reason for use of high legitimate power of reciprocity by the supervisor for subordinates having high quality of interaction with them.

### Coercive power

Result of MMRA where the coercive power basis was the criterion variable and contextual variables were the predictor variables are reported in Table 2.21.

Table 2.21 Regression of Coercive Power Basis on Climate, Degree of Control and Quality of Interaction.

Step	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
Variables					
I. Main Effects				.08**	.08**
NT	-.84	-.55	3.78		
PT	-.04	-.02	.005		
DC	.56	.51	4.67**		
PC	.19	.17	.29		
AF	-.34	-.14	.29		
II. Interaction Effects				.09**	.01
NT*DC	.02	.53	1.34		
NT*PC	.01	.25	.24		
NT*AF	.04	.04	.01		
PT*DC	.01	.17	.23		
PT*PC	.01	.19	.28		
PT*AF	-.02	-.15	.37		
PC*DC	-.02	-1.06	4.93**		
AF*DC	.01	.13	.13		
PC*AF	.01	.07	.06		

Note: Intercept = 21.48. NT = Nurturant task climate; PT = Participative climate; DC: Degree of Control; PC = Perceived contribution; AF = Affect.

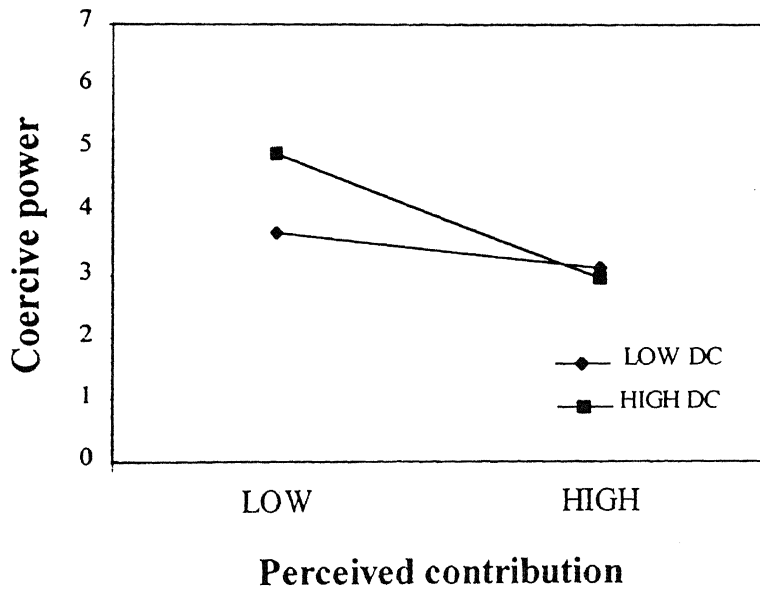
For numerical values: \*\* p<0.01, \* p<0.05.

The results showed that both main and interaction effects of contextual variables have significant effect on coercive power basis. Main effects of the

Contextual variables contributed 8% of the variance. After adding the interaction term in the regression equation 9% of the variance in coercive power basis was explained by contextual variables.

### Interaction Effects

The regression results showed that interaction between degree of control and quality of interaction (perceived contribution) has significant effect on coercive power



**Figure 2.5** Coercive power as a function of degree of control (DC) and perceived contribution.

asis. Figure 2.5 shows that impact of degree of control on coercive power basis is contingent on perceived contribution. High degree of control increases the use of coercive power as compared to low degree of control when perceived contribution is low. However, at high perceived contribution, high versus low degree of control does not affect coercive power. Thus the results indicate that there is more use of coercive power when quality of interaction is low on perceived contribution. The review of literature also showed that harsh means of influence are invoked to influence disliked and distrusted person (Kipnis, 1976; Michener and Schwertfeger, 1972).

### **Main Effects**

The results showed that degree of control has significant effect on coercive power basis and is positively associated with it ( $\beta = .51$ , Table 2.21). This finding does not coincide with the results of earlier studies (Graen and Cashman, 1975; Thibodeaux, III, and Lowe, 1996) which reported greater use of coercive power basis for out-group members (low quality of interaction). The present study indicates that quality of interaction between subordinate and supervisor does not independently affect the use of coercive power. Degree of control of supervisor over subordinate is the significant predictor of coercive power and quality of interaction moderates the relationship between degree of control and coercive power. The results indicate that when quality of interaction is high there will be less use of coercive power. But when quality of interaction is low the use of coercive power is determined by supervisor's degree of control over subordinates.

## Credibility power basis

Table 2.22 shows the results of MMRA where credibility power basis was the criterion variable and contextual variables were the predictor variables. The results showed that the main and interaction effects of contextual variables explained 27% of the variance in credibility power basis. Both main and interaction effects of contextual variables were found significant.

### Interaction Effects:

The interactions between quality of interaction (affect) and participative climate and quality of interaction (both perceived contribution and affect) and degree of control were found to be significant for credibility power basis.

Table 2.22 Regression of Credibility Power Basis on Climate, Degree of Control and quality of Interaction.

Step	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
Contextual variables					
Main Effects				.25**	.25**
NT	.25	.23	.81		
PT	-.20	-.15	.33		
DC	.15	.19	.80		
PC	.75	.96	11.11**		
AF	-.34	-.18	.62		
Interaction Effects				.27**	.02**
NT*DC	-.00	-.09	.05		
NT*PC	.01	.59	1.64		
NT*AF	-.04	-.59	3.03		
PT*DC	.01	.31	.93		
PT*PC	-.01	-.52	2.43		
PT*AF	.05	.44	3.89*		
PC*DC	-.01	-.93	4.66*		
AF*DC	.03	.73	4.75*		
PC*AF	-.02	-.45	2.72		

Note: Intercept = 7.37. NT = Nurturant task climate; PT = Participative climate; DC = Degree of Control; PC = Perceived contribution; AF = Affect. or numerical value: \*\* p < 0.01, \* p < 0.05.

As Figure 2.6a shows the relationship between quality of interaction (received contribution) and credibility power basis is moderated by degree of control. At high degree of control there is more use of credibility power basis in low perceived contribution condition than high perceived contribution condition. On the other hand, at low degree of control there is more use of credibility power basis in high perceived contribution than in low perceived contribution.

Figure 2.6b indicates more use of credibility power basis in high affect condition than in low affect condition at low participative climate. On the other hand at high participative climate more credibility power is used in low affect condition than in high affect condition. This indicates a noticeable change in the use of credibility power basis with an increase of participative climate in low affect condition.

Figure 2.6c indicates increase in the use of credibility power basis with an increase of degree of control for both low and high affect conditions. However, there is more use of credibility power basis when affect is low and degree of control is high.

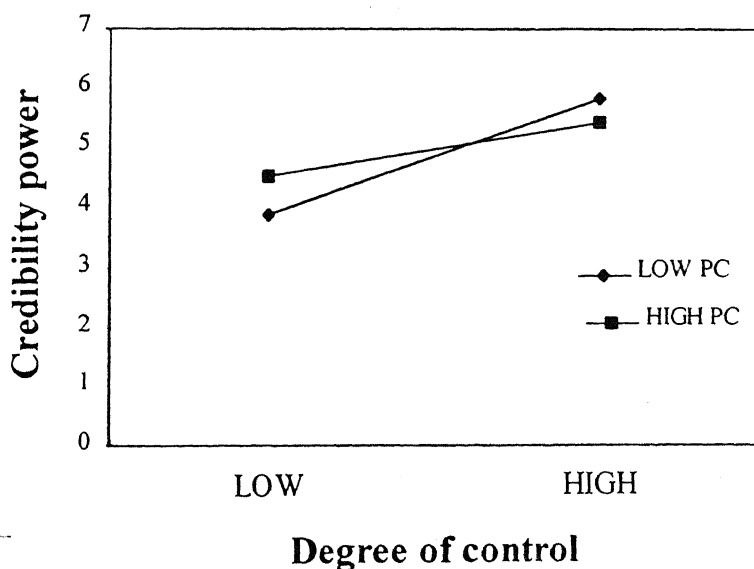


Figure 2.6a Credibility power as a function of

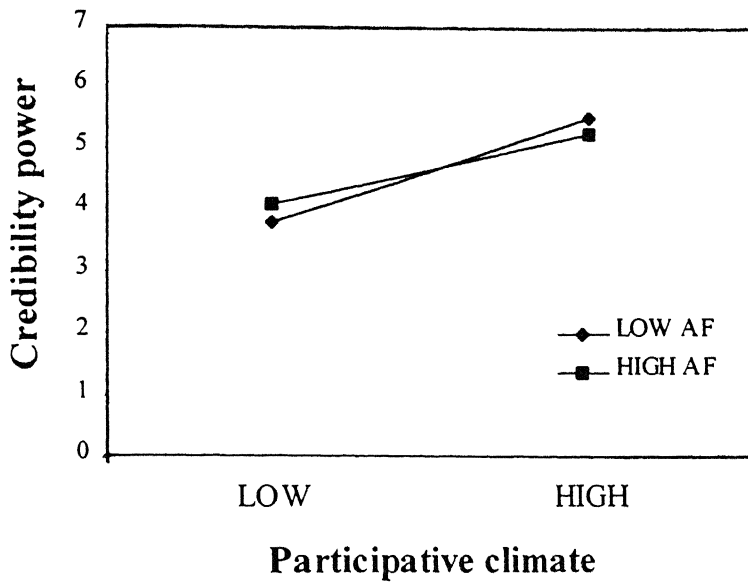


Figure 2.6b Credibility power as a function of affect(AF) and participative climate.

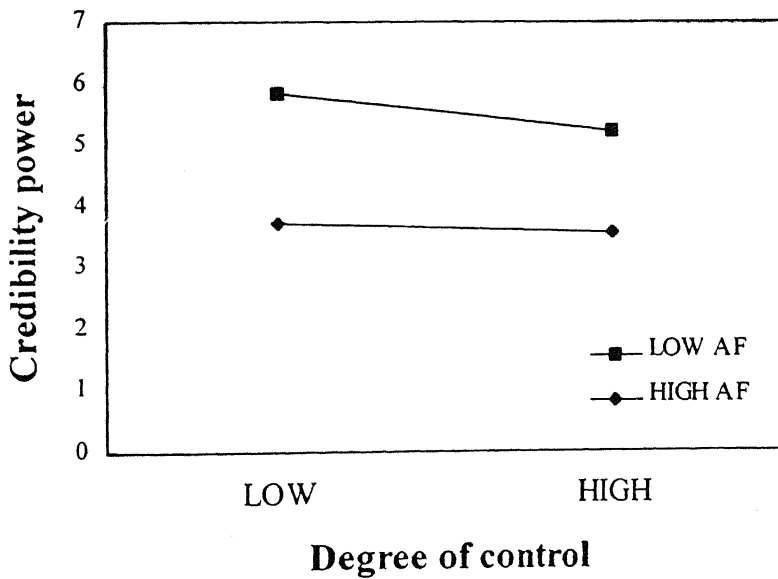


Figure 2.6c Credibility power as a function of affect (AF) and degree of control.

supervisor and subordinate and supervisors' degree of control over subordinates will be significant predictors of bases of power used by supervisor than the overall climate of the organisation.

### Effects of Bases of Power on Outcome Variables

#### Compliance with Supervisor

Table 2.23 summarises the results for compliance with supervisor. The results showed that both the main and interaction effects were significant for compliance with supervisor. Main effects of bases of power contributed 16% of the variance. After adding the interactions of bases of power 18% of the variance was explained by basis of power.

Table 2.23 Regression of Compliance with Supervisor on Bases of Power.

Step Variables	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
I. Main Effects				.16**	.16**
RW	.96	.18	7.56**		
RC	.32	.06	1.04		
CO	-.35	-.06	1.84		
CR	1.36	.25	25.20**		
II. Interaction Effects				.18**	.02**
RW*RC	.17	.03	.42		
RW*CO	.44	.09	1.90		
RW*CR	-.54	-.11	3.42		
RC*CO	-.83	-.18	7.65**		
RC*CR	.13	.02	.22		
CO*CR	.32	.06	1.48		

Note: Intercept = 21.15. RW = Reward power; RC = Legitimate Power of reciprocity; CO = Coercive power; CR = Credibility power basis.

For numerical values: \*\* p < 0.01, \* p < 0.05.

The regression results showed that the interaction between legitimate power of reciprocity and coercive power basis was significant for compliance with supervisor.



Supervisor and subordinate and supervisors' degree of control over subordinates will be significant predictors of bases of power used by supervisor than the overall climate of the organisation.

## Effects of Bases of Power on Outcome Variables

### Compliance with Supervisor

Table 2.23 summarises the results for compliance with supervisor. The results showed that both the main and interaction effects were significant for compliance with supervisor. Main effects of bases of power contributed 16% of the variance. After adding the interactions of bases of power 18% of the variance was explained by basis of power.

Table 2.23 Regression of Compliance with Supervisor on Bases of Power.

Step	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
Variables					
Main Effects				.16**	.16**
RW	.96	.18	7.56**		
CO	.32	.06	1.04		
RC	-.35	-.06	1.84		
CR	1.36	.25	25.20**		
Interaction Effects				.18**	.02**
RW*RC	.17	.03	.42		
RW*CO	.44	.09	1.90		
RW*CR	-.54	-.11	3.42		
RC*CO	-.83	-.18	7.65**		
RC*CR	.13	.02	.22		
CO*CR	.32	.06	1.48		

Note: Intercept = 21.15. RW = Reward power; RC = Legitimate Power of reciprocity; CO = Coercive power; CR = Credibility power basis.

For numerical values: \*\* p < 0.01, \* p < 0.05.

The regression results showed that the interaction between legitimate power of reciprocity and coercive power basis was significant for compliance with supervisor.

The results of the main effects showed that reward and credibility power bases have significant effects and both are positively associated with compliance with supervisor ( $\beta = .18$ ;  $\beta = .25$  respectively).

These results are in congruence with the stated hypothesis that basis of power used by supervisor influences the subordinates' compliance with supervisor. These results are also consistent with earlier related studies in which expert power was found to be positively associated with compliance (Dunne, Stahal and Melhart, 1978; Rahim and Afza, 1993; Rahim, 1989; Yukl and Falbe, 1991; Bachman, 1968; Bachman et.al, 1966; 1968; Fontaine and Beerman, 1977; Ivancevich and Donnelly, 1970; Patchen, 1974; Speckman, 1979; Student, 1968). Some studies have indicated that reward is also positively associated with compliance (Rahim, Kim, and Kim, 1994; Imai, 1991).

#### **Identification with Supervisor**

Table 2.24 summarises the results for identification with supervisor. The main effects of basis of power contributed 23% of the variance. The interactions of bases of power were not significant for identification with supervisor. Reward and credibility power bases were found to be positively associated ( $\beta = .20$ ;  $\beta = .36$  respectively) and coercive power basis to be negatively associated ( $\beta = -.17$ ) with identification with supervisor.

These results are in agreement with the stated hypothesis that basis of power used by supervisor influences the subordinates' identification with supervisor. These findings support the experimental findings of Pellegrini and Rubin (1974) in which coercive influence resulted in greater perceived dislike for the agent than did any of the other power bases.

Table 2.24 Regression of Identification with Supervisor on Bases of Power.

-Step Variables	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
I. Main Effects				.23**	.23**
RW	.62	.20	10.11**		
RC	.10	.03	.37		
CO	-.55	-.17	14.06**		
CR	1.12	.36	53.72**		
II. Interaction Effects				.24**	.01ns

Note: Intercept = 9.92. RW = Reward power; RC = Legitimate Power of reciprocity; CO = Coercive power; CR = Credibility power basis

\*\*  $p < 0.01$ , \*  $P < 0.05$ . ns = not significant.

### Internalisation with Supervisor

Table 2.25 shows the results for internalisation with supervisor as the criterion variable and bases of power as the predictor variable. The results showed that the interaction of basis of power had no significant effect for internalisation with supervisor. The main effects of bases of power accounted for about 16% of the variance for internalisation with supervisor.

Reward and credibility power bases were positively associated ( $\beta = .23$ ;  $\beta = .22$  respectively) and coercive power basis ( $\beta = -.16$ ) was negatively associated with the criterion variable. The effect of reciprocity power basis was found not to be significant.

The results provide support to our hypothesis that basis of power used by supervisor influences the subordinates' internalisation with supervisor's. These results are consistent with the findings of Yukl, Kim, and Falbe (1996) and Yukl and Falbe (1991) in which expert power was positively related with commitment for target incidents. The present findings also congruent with the findings of an experimental

study (Litman-Adizes, Raven and Fontaine, 1978) in which information power was found to be most effective and coercive and formal legitimacy to be least effective for private acceptance of change.

Table 2.25 Regression of Internalisation with Supervisor on Bases of Power.

Step Variables	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
I. Main Effects				.16**	.16**
RW	.62	.23	12.25**		
RC	.29	.10	3.27		
CO	-.44	-.16	10.62**		
CR	.59	.22	18.49**		
II. Interaction Effects				.17**	.01ns

Note: Intercept = 9.3. RW: Reward power; RC = Legitimate Power of reciprocity; CO = Coercive power; CR = Credibility power basis.

\*\* p < .001, \* p < 0.05. ns = not significant.

### Satisfaction with Supervisor

Results of MMRA where satisfaction with supervisor was the criterion variable and bases of power and their interactions were the predictor variables are presented in Table 2.26. The results showed that both the main effects and interaction effects of bases of power were significant for satisfaction with supervisor. After entering the two-way interactions of bases of power into regression equation, 24% of the variance in satisfaction with supervisor was explained by the main and interaction effects of bases of power. Although overall R<sup>2</sup> was significant for interactions of bases of power, regression coefficient was not found to be significant for any of the interactions.

The main effects of reward, coercive and credibility power bases were

significant for satisfaction with supervisor. Reward and credibility were found to be positively associated ( $\beta = .17$ ,  $\beta = .31$  respectively) and coercive power basis negatively associated

Table 2.26 Regression of Satisfaction with Supervisor on Bases of Power.

Step	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
Variables					
I. Main Effects				.21**	.21**
RW	1.47	.17	7.78**		
RC	.09	.01	.04		
CO	-2.15	-.25	29.37**		
CR	2.61	.31	40.19**		
II. Interaction Effects				.24**	.03**
RW*RC	.66	.09	2.68		
RW*CO	.78	.11	2.59		
RW*CR	-.52	-.06	1.39		
RC*CO	-.12	-.01	.06		
RC*CR	.01	.00	.009		
CO*CR	.68	.09	2.85		

Note: Intercept = 36.15. RW = Reward power; RC = Legitimate Power of reciprocity; CO = Coercive power; CR = Credibility power basis.

For numerical values: \*\*  $p < 0.01$ , \*  $p < 0.05$ .

( $\beta = -.25$ ) with satisfaction. These results are much in line with our hypothesis that basis of power used by supervisor influences the subordinates' satisfaction with supervisor. Results for reward power are in agreement with the findings reported by Rahim, Kim, and Kim (1994) in which reward was positively related with satisfaction with supervision in South Korean sample. Findings for expert and coercive power are consistent with previous literature in which expert power was found to be positively related and coercive power negatively associated with satisfaction with supervision (Busch, 1980; Carson, Carson and Roe, 1993; Shetty, 1978).

## Performance of Subordinates

The results for performance of the subordinates are presented in Table 2.27. The results showed that  $R^2$  was significant for the main as well as interaction effects of basis of power. The main and interaction effects of bases of power on performance of the subordinates explained the total of 7% variance. Although overall  $R^2$  was significant for the interactions of bases of power but regression coefficient was not found significant for any of the interactions.

The main effect of credibility power basis ( $\beta = .20$ ) was significant for performance of the subordinate and the two were found to be positively associated with each other (Table 2.27).

Table 2.27 Regression of Performance of the Subordinate on Basis of Power.

Step	Variables	b	$\beta$	F	$R^2$	$\Delta R^2$
I.	Main Effects				.03**	.03**
	RW	-.62	.05	.25		
	RC	1.26	-.10	1.34		
	CO	-.49	-.04	.27		
	CR	2.57	.20	6.81**		
II.	Interaction Effects				.07	.04**
	RW*RC	.68	.06	.51		
	RW*CO	-.22	-.02	.03		
	RW*CR	.17	.01	.02		
	RC*CO	2.14	-.19	2.95		
	RC*CR	.35	.02	.09		
	CO*CR	-.33	.02	.12		

Note: Intercept = 58.98. RW = Reward power; RC = Legitimate power of reciprocity; CO = Coercive power; CR = Credibility power basis.

For numerical values: \*\*  $p < 0.01$ , \*  $p < 0.05$ .

These results strongly support the stated hypothesis that Basis of power used by supervisor influences the subordinate's performance. The results are also consistent with the findings of previous studies in which performance was found to be positively associated with expert power basis (Bachman, 1968; Bachman, et.al, 1966; Fontaine and Beerman, 1977; Ivancevich and Donnelly, 1970; Patchen, 1974; Speckman, 1979; Student, 1968; Carson, Carson and Roe, 1993).

This section was concerned with examining the effect of bases of power on outcome variables. An overview of the results reported above suggests that credibility power basis had the strongest effect on all outcome variables. The use of coercive power basis negatively influenced satisfaction, internalisation, and identification. It was found to be unrelated to performance and not directly related to compliance. These findings are consistent with the studies examining the effectiveness of bases of power for different outcome variables.

The reward power influenced subordinates' compliance, identification, internalisation, and satisfaction but was unrelated to subordinates' performance. Findings for reward power are not in accord with earlier studies which used single item instruments and indicated inconsistent relationships between reward power and outcome variables (Bachman, 1968; Bachman et.al, 1966; 1968, Student, 1968; Ivancevich and Donnelly, 1970). As pointed out by Podsakoff and Schriesheim (1985) these inconsistencies may be due to the shortcomings of measures of bases of power used in the studies under reference. Another reason for variance in present findings from earlier ones may be related to cultural variations as reward power has been reported be positively associated with satisfaction and compliance in a study conducted in a country other than U.S (Rahim, Kim, and Kim, 1994). Yet another

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explanation may be that earlier studies examined reward power basis in terms of concrete forms like, promotion, pay raise etc., the use of which is limited and may sometimes can be perceived as bribe. However, in the present study reward was operationalized in concrete as well as in abstract forms like, praise, approval etc., which sometime can be more effective than the use of impersonal (concrete) forms of reward.

Subordinates found reciprocity power basis of their supervisor to be ineffective in enhancing their own satisfaction, internalisation, identification and performance. There is no supporting or contradicting evidence for these findings as no earlier studies have examined this basis of power.

### **Moderating Effects of Contextual Variables on the Relationship between Bases of Power and Outcome Variables**

Another focus of the study was to examine the moderating effects of contextual variables of bases of power (climate, degree of control, quality of interaction) on the relationship between bases of power and different outcome variables. To investigate the moderating effects of contextual variables moderated multiple regression analysis (MMRA) was performed for each outcome variable separately. Mean scores related to significant interactions between bases of power and contextual variables are reported in Appendix C (Table C7 to Table C12).

#### **Compliance with Supervisor**

The results of MMRA where the compliance with supervisor was the criterion variable are presented in Table 2.28. The results showed that the relationship between bases of power and compliance with supervisor is not moderated by the contextual



variables as no interaction between bases of power and contextual variables was found to be significant. The main effect of credibility power basis was found to be significant. It was positively associated with compliance with supervisor ( $\beta = .89$ , Table 2.28). This finding is consistent with the results of previous studies as has been reported in section II.

Table 2.28 Regression of Compliance with Supervisor on Basis of Power (as Predictors) and Contextual Variables (as Moderators).

Step	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
Variables					
I. Main Effects				.26**	.26**
RW	.07	.44	.12		
RC	-.61	.11	2.75		
CO	-.01	.38	.001		
CR	.45	.89	4.03*		
NT	-.20	.39	.44		
PT	.12	.73	.15		
DC	-.05	.35	.06		
PC	.36	.83	2.51		
AF	.11	.95	.07		
II. Interaction Effects				.29**	.03ns

Note: Intercept = 9.45. RW = Reward power; RC = Legitimate power of reciprocity; CO = Coercive power; CR = Credibility power basis; NT = Nurturant task climate; PT = Participative climate; DC = Degree of Control; PC = Perceived contribution; AF = Affect. \*\*  $p < 0.01$ , \*  $p < 0.05$ . ns = not significant.

### Identification with Supervisor

Table 2.29 shows the results of MMRA for identification with supervisor. The results showed that climate and quality of interaction moderate effects of bases of power on identification with supervisor. Both main and interaction effects of bases of power and contextual variables were found to be significant and contributed 53% of the variance in identification with supervisor. The interaction effects

Table 2.29 Regression of Identification with Supervisor on Basis of Power (as Predictors) and contextual Variables (as Moderators).

Step Variables	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
I. Main Effects				.50**	.50**
RW	.01	.02	.01		
RC	.11	.15	.41		
CO	.12	.23	1.63		
CR	.05	.09	.25		
NT	-.05	-.08	.13		
PT	-.10	-.13	.48		
DC	.14	.31	2.13		
PC	.18	.41	2.66		
AF	.45	.43	4.84*		
II. Interaction Effects				.53**	.03**
RW*NT	-.01	-.56	1.87		
RW*PT	-.01	-.18	.39		
RW*DC	.00	.06	.03		
RW*PC	.01	.89	5.40*		
RW*AF	-.01	-.27	1.35		
RC*NT	.02	.54	.43		
RC*PT	-.01	-.17	.69		
RC*DC	.00	.06	.04		
RC*PC	-.02	-.64	3.88*		
RC*AF	.00	.03	.02		
CO*NT	.01	.34	1.59		
CO*PT	.01	.35	4.24*		
CO*DC	-.01	-.43	2.88		
CO*PC	-.01	-.55	5.58*		
CO*AF	.00	.06	.16		
CR*NT	.00	.17	.21		
CR*PT	.01	.19	.74		
CR*DC	-.00	-.14	.16		
CR*PC	.00	.02	.00		
CR*AF	-.01	-.15	.57		

Note : Intercept = -1.91. RW = Reward power; RC = Legitimate power of reciprocity; CO = Coercive power; CR = Credibility power basis; NT = Nurturant task climate; PT = Participative climate; DC = Degree of Control; PC = Perceived contribution; AF = Affect. For numerical values: \*\* p<0.01, \*p<0.05.

accounted for approximately 3% of the variance in identification with supervisor above and beyond their main effects.

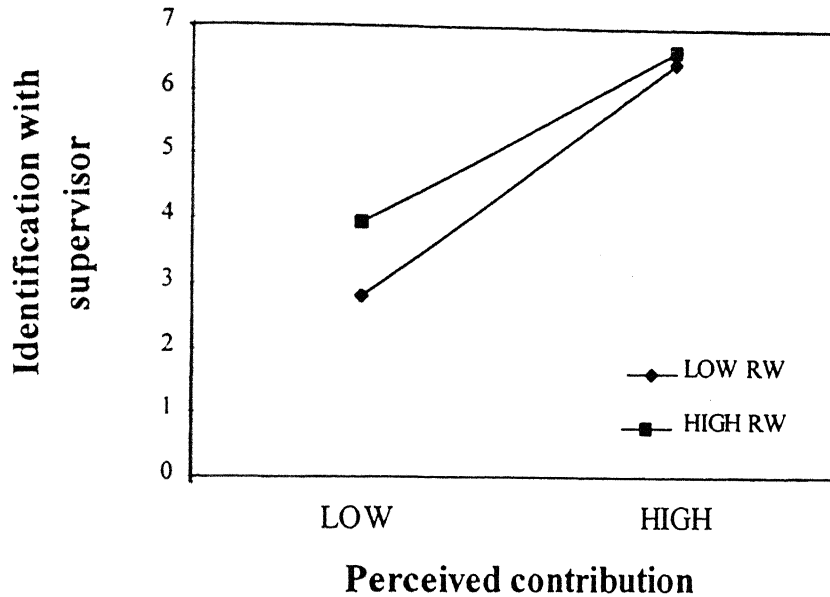
### **Interaction Effects:**

Figure 2.8a indicates that with an increase of quality of interaction (perceived contribution) identification also increases for both low and high reward power conditions. There is maximum identification when both quality of interaction (perceived contribution) and reward power are high

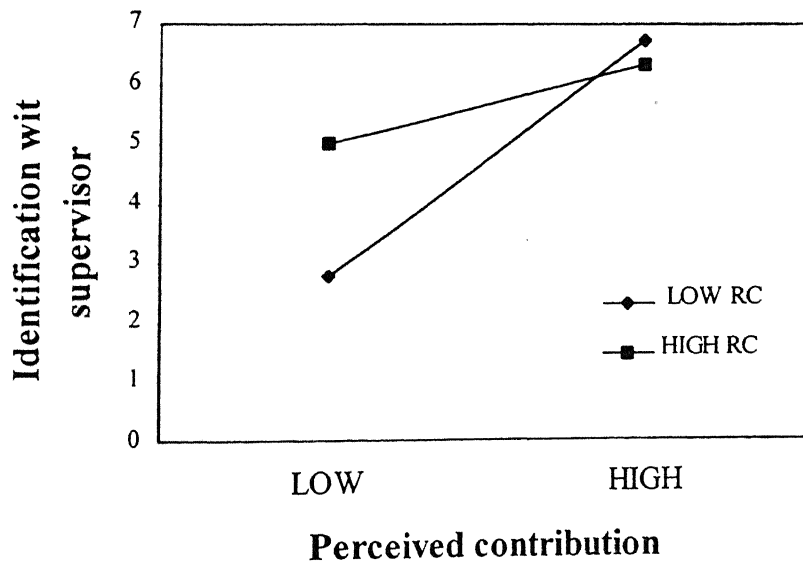
Figure 2.8b shows that the impact of legitimate power of reciprocity on identification with supervisor is also contingent upon quality of interaction (perceived contribution). At low perceived contribution there is a noticeable difference between high and low legitimate power of reciprocity in such a way that high legitimate power of reciprocity is associated with more identification with supervisor than low legitimate power of reciprocity. However, at high perceived contribution there is no such visible difference between high and low legitimate power of reciprocity ratings on identification with supervisor. This suggests that for low quality of interaction more use of legitimate power of reciprocity is more effective than less use of legitimate power of reciprocity.

Figure 2.8c shows that the relationship between coercive power basis and identification with supervisor is moderated by participative climate. It indicates that low coercive power is associated with more identification with supervisor at both high and low participative levels of climate. There is maximum identification with supervisor when the climate of the organisation is highly participative and supervisor uses less coercive power.

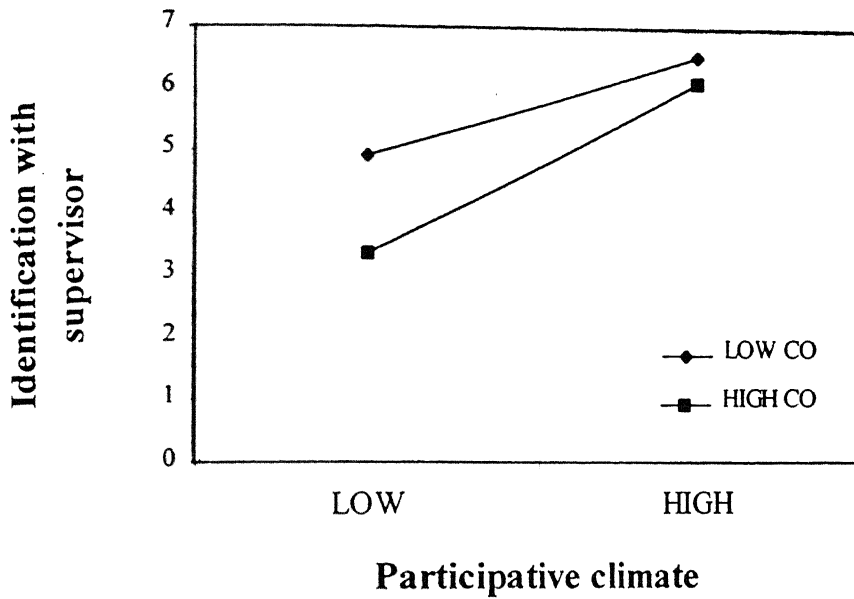
Figure 2.8d shows that when quality of interaction (as measured through perceived contribution) is low there is less identification with supervisor in both high and low coercive power conditions than when quality of interaction is high.



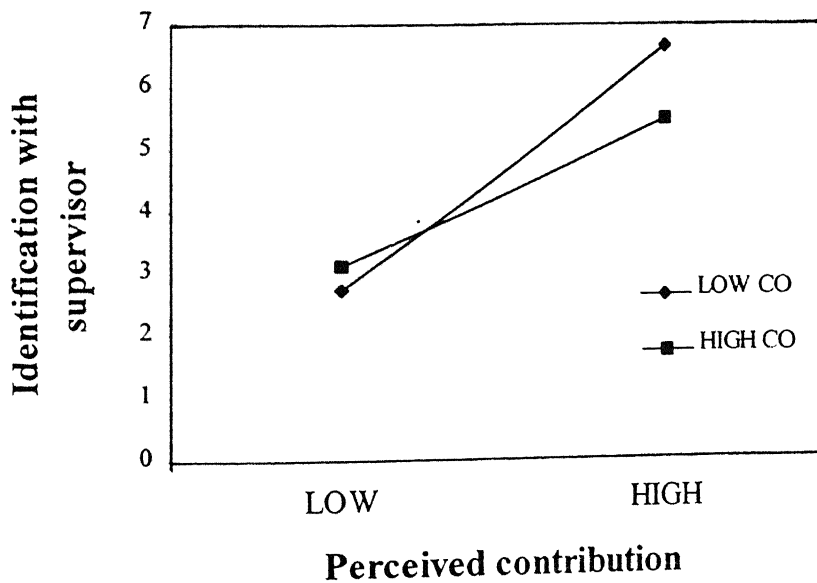
**Figure 2.8a** Identification as a function of reward power (RW) and perceived contribution.



**Figure 2.8b** Identification as a function of legitimate power of reciprocity (RC) and perceived contribution.



**Figure 2.8c** Identification as a function of coercive power (CO) and participative climate.



**Figure 2.8d** Identification as a function of coercive power (CO) and perceived contribution.

There is maximum identification when supervisor uses less coercive power and quality of interaction between supervisor and subordinate is high.

### **Main Effect**

The results showed that none of the bases of power had any significant effect on identification with supervisor. Only one contextual variable, affect, was found to be positively associated with identification with supervisor.

The overall results showed that climate and quality of interaction have significant moderating effect on the relationship between bases of power and identification with supervisor. No basis of power was found to have its independent significant effect on identification with supervisor but when these are accompanied with their contextual variables, they have significant effect on identification with supervisor.

### **Internalisation with Supervisor**

Table 2.30 shows results of MMRA for internalisation with supervisor. The results show that the interactions between basis of power and its contextual variables were significant which indicated that effects of bases of power on internalisation with supervisor are moderated by contextual variables. The total variance explained by the main effects and interaction effects of bases of power and contextual variables was 42%. The interaction effects accounted for approximately 5% of the variance in internalisation with supervisor above and beyond their main effects.

Table 2.30 Regression of Internalisation with supervisor on Bases of Power (as Predictors) and contextual Variables (as Moderators).

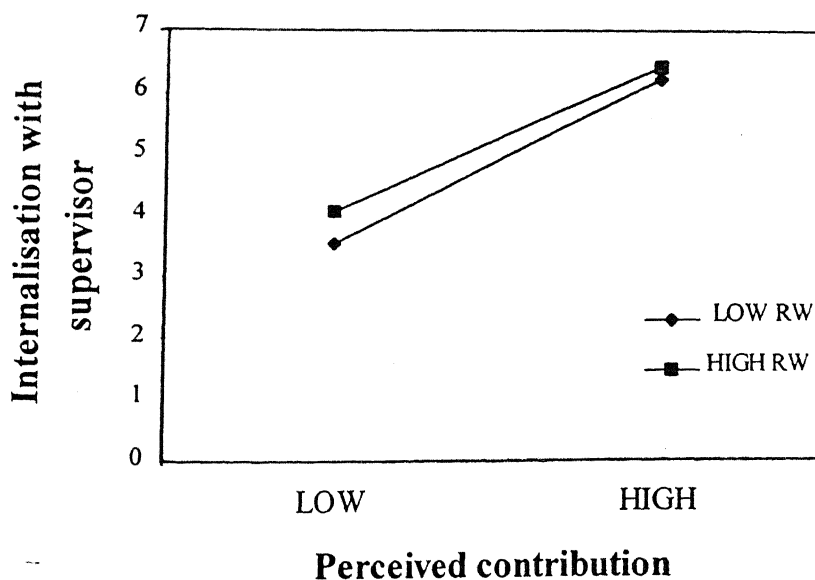
Step	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
Variables					
I. Main Effects				.37**	.37**
RW	.05	.15	.31		
RC	-.11	-.16	.42		
CO	.24	.54	7.14**		
CR	.00	.01	.00		
NT	.14	.25	.95		
PT	-.13	-.19	.85		
DC	.11	.29	1.47		
PC	.08	.20	.54		
AF	.37	.41	3.48		
II. Interaction Effects				.42**	.05**
RW*NT	-.01	-.55	1.48		
RW*PT	.00	.13	.18		
RW*DC	-.01	-.68	2.78		
RW*PC	.01	1.59	14.18**		
RW*AF	-.02	-.69	7.39**		
RC*NT	.02	.64	3.12		
RC*PT	-.02	-.44	3.85		
RC*DC	.01	.48	1.95		
RC*PC	-.00	-.11	.14		
RC*AF	.01	.19	1.03		
CO*NT	-.00	-.11	.14		
CO*PT	.01	.29	2.49		
CO*DC	-.00	-.21	.58		
CO*PC	-.01	-.63	5.94*		
CO*AF	.00	.04	.08		
CR*NT	.00	-.04	.01		
CR*PT	.01	.32	1.61		
CR*DC	.00	.21	.28		
CR*PC	-.01	.63	2.79		
CR*AF	.01	.22	.95		

Note : Intercept = -.68. RW = Reward power; RC = Legitimate power of reciprocity; CO = Coercive power; CR = Credibility power basis; NT = Nurturant task climate; PT = Participative climate; DC = Degree of Control; PC = Perceived contribution; AF = Affect. For numerical values: \*\* p<0.01, \*p<0.05.

The beta coefficient was found to be significant for the interaction between quality of interaction (perceived contribution) and reward power. The graphic representation (Figure 2.9a) shows that with the increase of perceived contribution there is an increase in internalisation with supervisor for both high and low reward power conditions. But there is more internalisation with supervisor when reward power is high than when reward power is low at high perceived contribution.

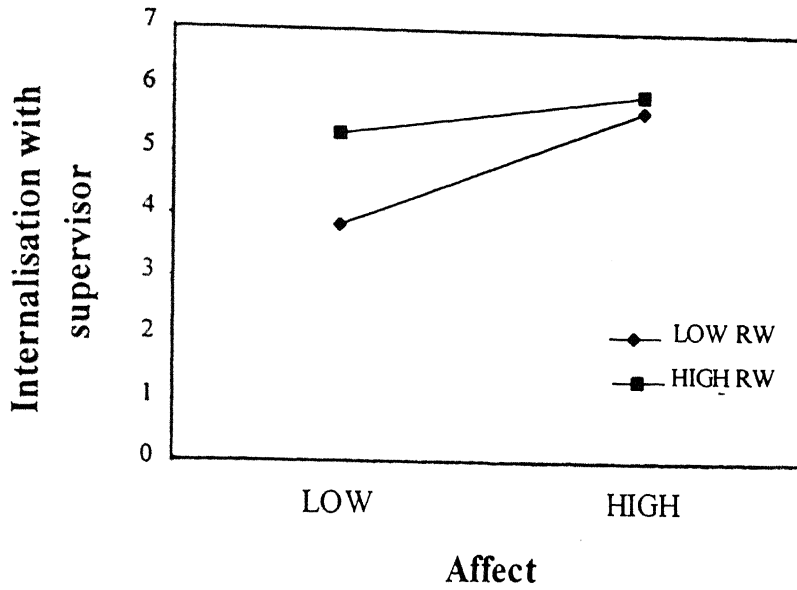
As figure 2.9b show the impact of reward power on internalisation with supervisor depends on quality of interaction on the dimension of affect also. At low affect there is noticeable difference between high and low reward power in such a way that high reward power is associated with more internalisation than low reward. However, this difference between high and low reward power is not conspicuous at high affect.

Figure 2.9c indicates that when quality of interaction is low on perceived contribution there is less internalisation in both low and high coercive conditions than

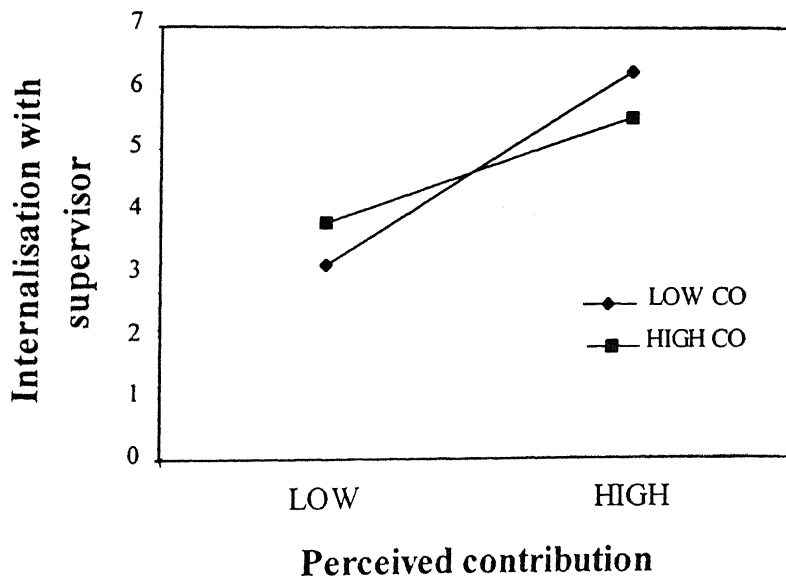


**Figure 2.9a** Internalisation as a function of reward power (RW) and perceived contribution.





**Figure 2.9b** Internalisation as a function of reward power (RW) and affect.



**Figure 2.9c** Internalisation as a function of coercive power (CO) and perceived contribution.

when quality of interaction is high. There is maximum internalisation when supervisor uses less coercive power and quality of interaction between supervisor and subordinate is high.

### **Main Effect**

The main effect of the coercive power was found to be significant. It was positively associated with internalisation with supervisor ( $\beta = .54$ , Table 2.30).

The overall results showed that quality of interaction has significant moderating effect on the relationship between bases of power and internalisation with supervisor. Reward basis of power had no independent effect on internalisation with supervisor but its interactions with quality of interaction have significant effect on internalisation with supervisor. The results of main effect showed that with an increase of coercive power internalisation with supervisor also increases. But the results of interaction effect showed that the effect of coercive power on internalisation with supervisor is moderated by perceived contribution. There can be increase in internalisation with supervisor with the increase of coercive power but with an increase of perceived contribution there will be more internalisation with supervisor in low coercive situation than in high coerciveness.

### **Satisfaction with Supervisor**

The results of MMRA where the satisfaction with supervisor was the criterion variable are presented in Table 2.31. The results showed that the effect of bases of power on satisfaction with supervisor is not moderated by its contextual variables as no interaction was found to be significant for bases of power and its contextual variables. The main effects of the bases of power and contextual variables accounted for about 57% of the variance for satisfaction with supervisor.

The reward basis of power was found to be significantly positively related ( $\beta=.51$ , Table 3.31) with satisfaction with supervisor. This finding coincides with the results of previous studies, which reported positive correlation between satisfaction and reward basis of power (Rahim, Kim and Kim, 1994; Hunt and Nevin, 1974).

Table 2.31 Regression of Satisfaction with Supervisor on Basis of Power (as Predictors) and Contextual Variables (as Moderators).

Step Variables	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
I. Main Effects				.57**	.57**
RW	.53	.51	5.36*		
RC	-.32	-.16	.54		
CO	-.06	-.05	.07		
CR	-.51	-.31	3.68		
NT	.49	.29	1.89		
PT	.51	.24	.16		
DC	-.15	-.13	.39		
PC	.37	.32	1.84		
AF	.47	.17	.86		
II. Interaction Effects				.59**	.02ns

Note : Intercept = 12.84. RW = Reward power; RC = Legitimate power of reciprocity; CO = Coercive power; CR = Credibility power basis; NT = Nurturant task climate; PT = Participative climate; DC = Degree of Control; PC : Perceived contribution; AF = Affect. \*\*p < 0.01, \* p < 0.05. ns = not significant.

### Performance of Subordinates

Table 2.32 shows the results of MMRA where the performance of the subordinates was the criterion variable. The results showed that the relationship between performance of the subordinates and bases of power is moderated by contextual variables. The main effects of the variables contributed 10% of the variance for performance of the subordinates. The interactive effects of the bases of

power and contextual variables accounted for approximately 13% of the variance in performance above and beyond their main effects.

Table 2.32 Regression of Performance of the Subordinates on Basis of Power (as predictors) and Contextual Variables (as Moderators).

Step Variables	b	$\beta$	F	R <sup>2</sup>	$\Delta R^2$
I. Main Effects				.10**	.10**
RW	-.68	-.51	.77		
RC	-1.72	-.66	1.22		
CO	2.08	1.16	6.17**		
CR	-.29	-.14	.13		
NT	.44	.19	.20		
PT	-.95	-.37	.56		
DC	-.96	-.61	1.56		
PC	.50	.32	.27		
AF	1.69	.49	1.32		
II. Interaction Effects				.23**	.13**
RW*NT	.02	.35	.15		
RW*PT	-.01	-.18	.09		
RW*DC	.03	1.00	1.71		
RW*PC	-.02	-.59	.65		
RW*AF	.01	.06	.01		
RC*NT	-.04	-.35	.30		
RC*PT	.02	.09	.05		
RC*DC	-.06	-.82	1.69		
RC*PC	.15	2.00	9.14**		
RC*AF	-.04	-.17	.21		
CO*NT	-.03	-.46	.53		
CO*PT	.12	1.00	5.95*		
CO*DC	-.04	-.80	2.44		
CO*PC	-.04	-.71	2.18		
CO*AF	-.09	-.54	3.00		
CR*NT	.03	.40	.18		
CR*PT	-.04	-.39	.47		
CR*DC	.05	1.21	1.82		
CR*PC	-.05	-.90	1.10		
CR*AF	-.01	-.04	.01		

Note: Intercept = 63.69. RW = Reward power; RC = Legitimate power of reciprocity; CO = Coercive power; CR = Credibility power basis; NT = Nurturant task climate; PT = Participative climate; DC = Degree of Control; PC: Perceived contribution; AF = Affect.

For numerical values: \*\* p<0.01. \*p<0.05.

## **Interaction Effects**

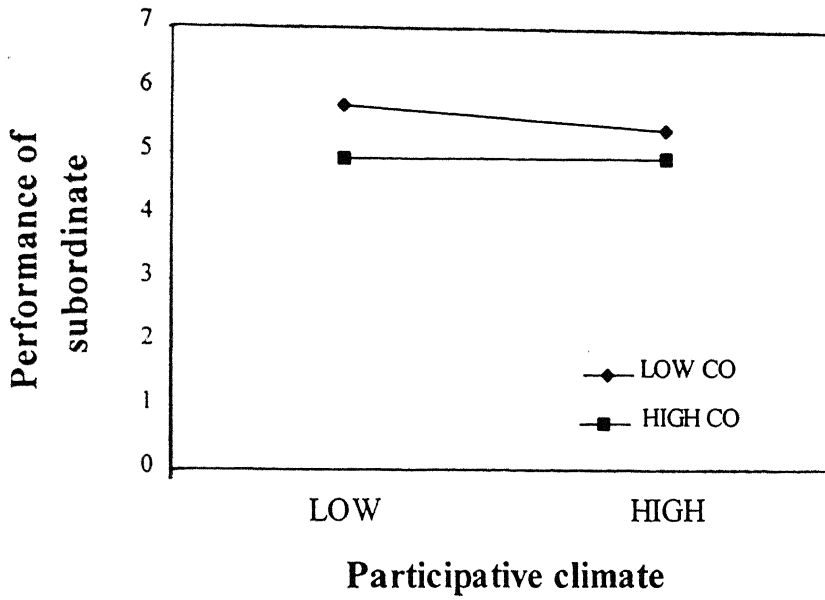
Figure 2.10a shows that the relationship between coercive power and performance of the subordinates is moderated by participative climate. It indicates that low coercive power is associated with more performance of subordinates at both low and high participative climate. However, the difference between high and low coercive power ratings on performance of subordinates is more at low participative climate than at high participative climate.

Figure 2.10b indicates that effect of legitimate power of reciprocity on performance of subordinates depends upon quality of interaction (perceived contribution). At high perceived contribution there is no difference between high and low legitimate power of reciprocity ratings on performance of subordinates. On the other hand, at low perceived contribution low legitimate power of reciprocity is associated with more performance of subordinates than high legitimate power of reciprocity.

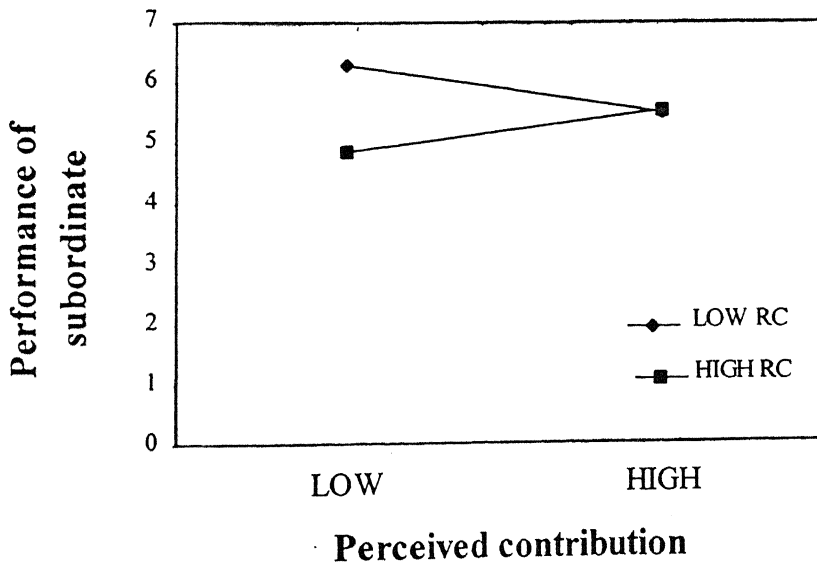
## **Main Effects**

The results showed that coercive power was significantly positively associated with performance of the subordinates ( $\beta = 1.16$ , Table 2.32).

Taken together, the results of main effects indicate that with an increase of coercive power performance of subordinates also increases. In addition, the results of interaction suggest that (a) when coercive power is accompanied with participative climate, low coercive power is associated with more performance of subordinates than high coercive power; (b) quality of interaction significantly moderates the relationship between legitimate power of reciprocity and performance of subordinates.



**Figure 2.10a** Performance as a function of coercive power (CO) and participative climate.



**Figure 2.10b** Performance as a function of legitimate power of reciprocity (RC) and perceived contribution.

Thus the overall results showed that quality of interaction is a significant predictor of basis of power as well as a significant moderator for the relationship between bases of power and its outcome variables. Degree of control has significant moderating effect on the relationship between quality of interaction and bases of power but it was not found to be a significant moderator for the effect of bases of power on its outcome variables. Climate, especially participative climate, was also a significant moderator for the relationship between bases of power and outcome variables.

### **Effects of Organisational and Demographic Variables on Bases of Power**

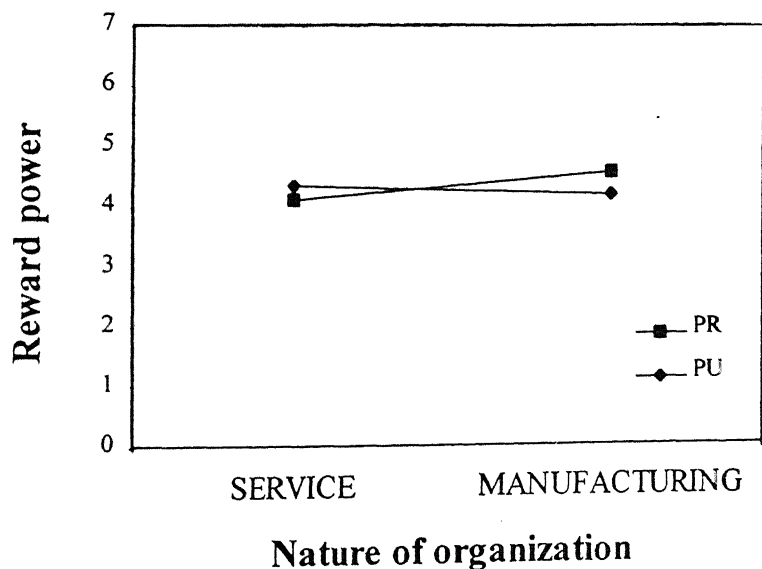
Other objectives of the study were to examine the variations of power bases across organisation type (OT) [categorised as public/private (ownership) and service/manufacturing (nature)] and across managerial levels (ML) of the subordinate (middle/lower) and the supervisor (top/middle). Analysis of variance (ANOVA) technique was used to examine these variations. For graphic representation of significant interactions, mean factor scores were obtained by dividing the respecting factor scores by the number of items contained in the factor. The results of ANOVA for bases of power as a function of OT and ML are reported in Appendix C (Table C13 to C28). Significant results are presented and described here.

#### **Bases of power as a function of organisation type (OT)**

The significant results of ANOVA for bases of power as a function of organisation type are reported in Table 2.33.

## Reward Power

The ANOVA results revealed that the main effects of ownership and nature of organisation were not significant for reward basis of power. The interaction between two (nature and ownership of organisation) was found to have significant effect on it ( $F(1,424) = 4.53, p < .035$ ) (Figure 2.11). The results of simple main effects analysis indicated significant difference between public manufacturing and private manufacturing organisations ( $F(1,424) = 4.71, p < .05$ ) but no such significant difference was obtained between public service and private service organisations for reward basis of power. It was reported to be more frequently used in private manufacturing organisations (Mean = 4.53) than in public manufacturing organisations (Mean = 4.10) (Table 2.34). There was no significant difference between public service and public manufacturing as well as private service and private



**Figure 2.11** Reward power as a function of nature and ownership of organization. (PR = Private organization; PU = Public organization).



manufacturing organisations for reward basis of power.

### Legitimate Power of Reciprocity

For legitimate power of reciprocity basis of power main and interaction effects of the nature and ownership of organisation were not significant.

### Coercive Power

For coercive basis of power main effect of the ownership of organisation and interaction between ownership and nature of organisation were not significant. The main effect of nature of organisation was found to be significant for coercive basis of power ( $F(1,424)=5.56, p < .019$ ). The mean scores for coercive power basis across nature of organisation indicated greater use of coercive power basis in manufacturing organisations (Mean = 3.56) than in service organisations (Mean = 3.21).

Table 2.33 Summary of Significant ANOVA Results for Different Basis of Power as a Function of Organisation Type (OT).

Bases of Power	Source	F (df1, df2)
1. Reward power	AB	4.53 (1,424)*
	A at b1	4.71 (1,424)*
Coercive	B	5.56 (1,424)**

Note: A = Ownership of the organisations; B = Nature of the organisation; b1= Manufacturing organisation.

\*\*  $p < .01$ , \*  $p < .05$ .

Table 2.34 Mean Reward Power Scores (SDs) as Function of Ownership and Nature of the Organisation

Nature of the Organisations (NO)	Ownership of the organisations (OO)	
	Public	Private
Service	4.34 (1.16)	4.18 (1.25)
Manufacturing	4.10 (1.31)	4.53 (1.16)

## **Credibility Power**

The main effects of nature and ownership of organisation as well as the interaction between these two were not significant for credibility power basis.

An overview of the results of bases of power as a function of organisation type indicates that results support the stated hypotheses (a) the use of bases of power by supervisor varies according to nature of organisation, (b) the use of bases of power by supervisor varies as a function of interaction between ownership and nature of organisation. The ownership of organisation was not found to have independent effect on bases of power. These results also suggest that different types of organisation vary specifically on reward and coercive bases of power but not on other two.

## **Bases of Power as a Function of the Managerial Level (ML) of the Supervisor (Top/Middle) and the Subordinate (Middle/Lower)**

The significant results of ANOVA for bases of power as a function of managerial level of the supervisor and the subordinate are reported in Table 2.35.

## **Reward Power**

For reward basis of power the main and interaction effects of managerial level of the supervisor and subordinate were not significant.

## **Legitimate Power of Reciprocity**

Results revealed significant interaction between the managerial level of the supervisor and the subordinate for legitimate power of reciprocity ( $F(1,424)=5.41, p < .05$ ) (Figure 2.12). The results of simple main effects analysis indicated that for legitimate power of reciprocity there was significant difference between middle and

top levels of the supervisor at middle level of the subordinate ( $F(1,424)=4.05, p < .05$ ) but there was no such significant difference at lower managerial level of the subordinate. There was more use of reciprocity power basis when the supervisor was from middle level (Mean = 4.46) than when supervisor was from top level (Mean = 3.90). This suggests that when supervisor and subordinate belong to same managerial levels, supervisor use more legitimate power of reciprocity than when they belong to different levels. No significant difference was found between lower and middle levels of the subordinates for reciprocity power basis either at the middle or at the top level of the supervisor. The main effects of the managerial level of supervisor and the subordinate were not significant.

Table 2.35 Summary of Significant ANOVA Results for Different Basis of Power as a Function of the Managerial Level (ML).

Bases of power	Source	F(df1, df2)
1. Reciprocity	AB	5.41 (1,424)*
	A at b2	4.05 (1,424)*
2. Coercive	AB	8.49 (1,424)**
	A at b2	9.71 (1,424)**
	B at a2	4.75 (1,424)*

Note: A = Managerial level of the supervisor; B= Managerial level of the subordinate; b2= Middle level subordinate; a2=Top level supervisor.

\*\*  $p < .01$ , \* $p < .05$ .

Table 2.36 Mean Legitimate Power of Reciprocity Scores (SDs) as a Function of Managerial Level of the Supervisor and the Subordinate

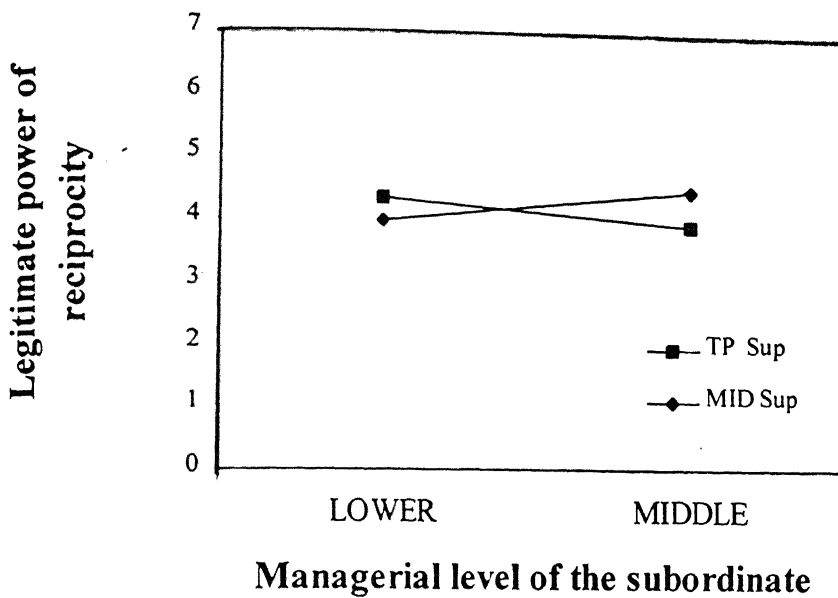
ML of the subordinate	ML of the supervisor	
	Middle	Top
Lower	3.99 (1.32)	4.34 (1.37)
Middle	4.46 (1.59)	3.90 (4.14)

Note: ML = Managerial level.

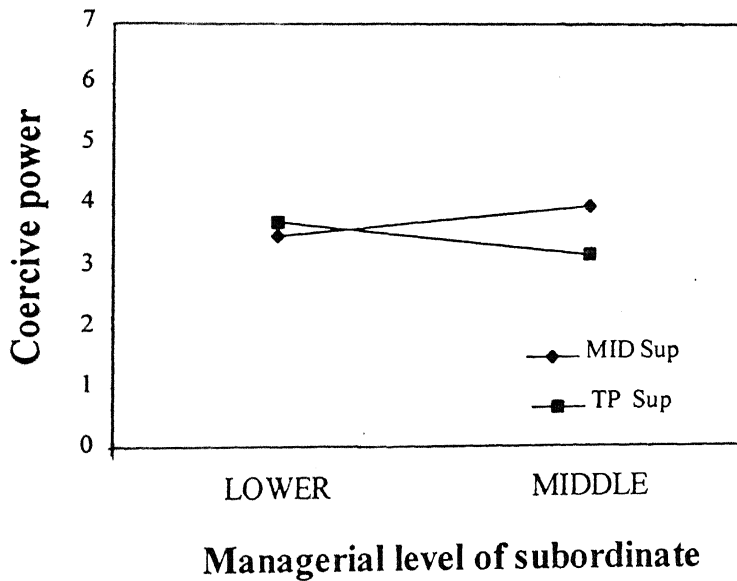
## Coercive Power

The results of ANOVA for coercive power basis indicated a significant interaction between managerial level of the supervisor and the subordinate ( $F(1,424)=8.49$ ,  $p < .01$ ) (Figure 2.13). The results of simple main effects analysis indicated that for coercive power basis there was significant difference between the middle and top levels of the supervisor at middle level of the subordinate ( $F(1,424)=9.71$ ,  $p < .01$ ) but no significant difference was found at lower level of the subordinates. Coercive power was reported to be more frequently used when supervisor was from the middle level ( $M=3.94$ ) than when supervisor was from the top level ( $M=3.18$ ). These findings are not congruent with the findings of an earlier study in which people of higher status were perceived to use a "strong" strategy composed of higher authority, sanctions, and reasoning whereas people of lower status were perceived to use a "weak" strategy composed of friendliness, assertiveness and collation (Fung, 1991). Other studies (Kahn, Wolfe, Qinn, Snoek and Rosenthal, 1964; Frost and Stahelski, 1988) also reported that higher level leaders use more reward, coercive and legitimate power than do lower level leaders.

Further the difference was significant between lower and middle levels of the subordinate for coercive power basis at the top level of the supervisor ( $F(1,424)=4.75$ ,  $p < .05$ ) but not at middle level of the supervisor. There was more use of coercive power basis when subordinate was from lower level (Mean = 3.71) than when subordinates were from middle level (Mean = 3.18) (Table 2.37). The main effects of managerial levels of the supervisor and subordinate were not significant. Overall, the findings indicate that when subordinates belong to middle level there is more use of coercive power by middle level supervisor. When the supervisor is



**Figure 2.12** Legitimate power of reciprocity as a function of managerial level of supervisor and managerial level of subordinate. (MID Sup= Middle level supervisor; TP Sup= Top level supervisor).



**Figure 2.13** Coercive power as a function of managerial level of supervisor and managerial level of subordinate. (MID Sup= Middle level supervisor; TP Sup= Top level supervisor).

from top level, he uses more coercive power for lower level subordinates than for middle level subordinates.

**Table 2.37 Mean Coercive Power Scores (SDs) as a Function of the Managerial Level of the Supervisor and Subordinate.**

ML of the subordinate	ML of the supervisor	
	Middle	Top
Lower	3.47 (1.30)	3.71 (1.26)
Middle	3.94 (1.30)	3.18 (1.14)

Note: ML= Managerial level.

### **Credibility Power**

For credibility power basis the results revealed no significant interaction between managerial levels of the supervisor and subordinate. The main effects of managerial level of the supervisor and subordinate were also not significant.

The present study does not support the earlier studies (Fung, 1991; Kahn, et.al, 1964; Frost and Stahelski, 1988) which reported significant main effect of supervisor status on the use of bases of power. The present findings indicate that bases of power do not vary as independent effects of managerial levels of supervisor or managerial levels of subordinate but both works interactively for bases of power. These findings are consistent with the notion that an agent's choice of a particular influence strategy is based on his evaluation on the parameters of the agent-target relationship, including the relative status of each individual (Raven, 1993).

## Chapter 3

# THE EXPERIMENT

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## An Overview

The focus of the experiment was on examining the effect of 12 bases of power described earlier and their interactions with sex of the supervisor and sex of the subordinate for different outcome (dependent) variables, namely, compliance, surveillance, internalisation, identification and liking (Figure 3.1). A repeated measure 2 (sex of the subject) x 2 (sex of the supervisor) x 12 (bases of power) factorial design with repeated measures on bases of power was employed. Data were analysed using multivariate analysis of variance (MANOVA) as multiple measures on each subject for different trials or times were collected using the same criterion variables at each trial or time. These criteria can be viewed as separate variables statistically and tested using MANOVA. A primary advantage of this design is that it controls for individual differences and often produces a more powerful test of the hypothesis than would a between subject design (Bray and Maxwell, 1993). The comparison of cell means was performed by Tukey honestly significant difference test. The result of these analyses is presented in the Appendix D. Only significant results are reported in the present chapter.

## **METHOD**

### **Overview of the Design**

The overall design of the study was a 2 (sex of the supervisor: Male/Female) x 2 (sex of the subject: Male/Female) x 12 (basis of power) factorial design with repeated measures on the third factor. The basis of power was manipulated by giving suitable scenarios to the subjects in a random order. The data were analysed using MANOVA.



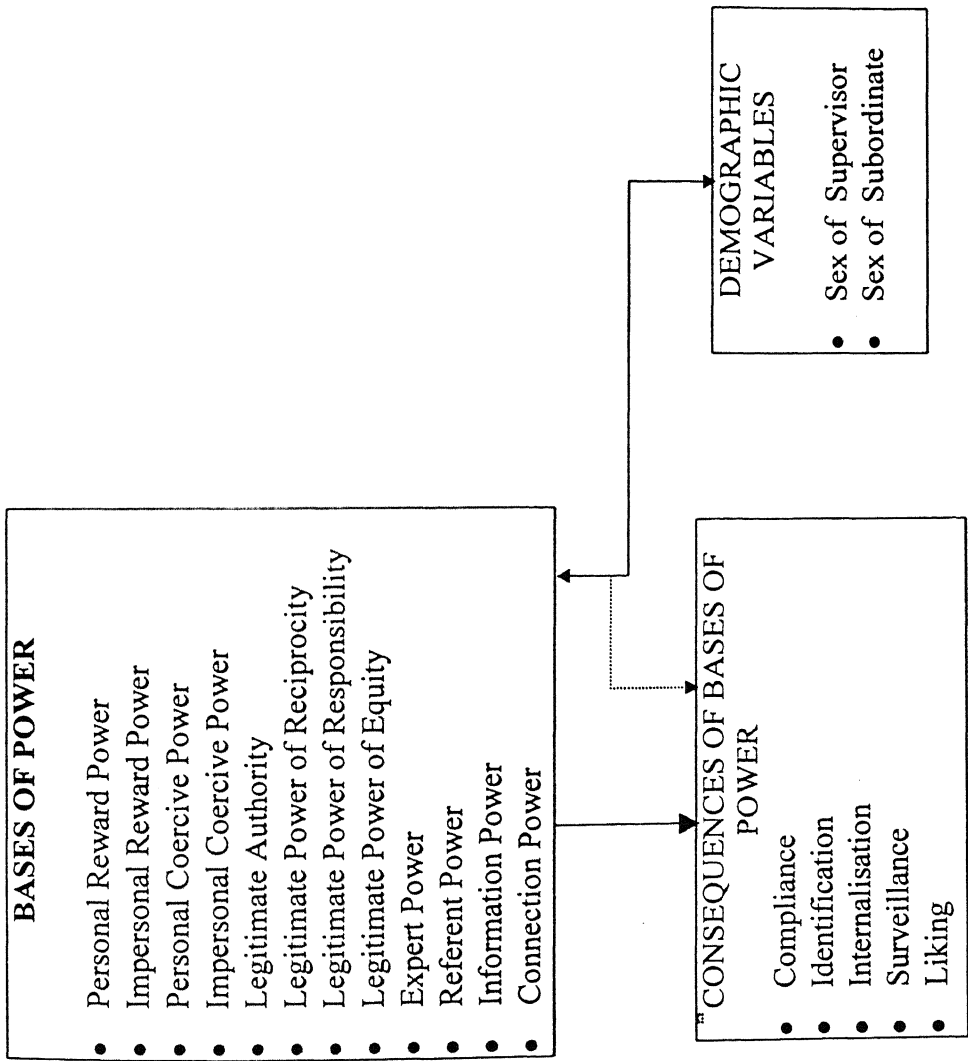


FIGURE 3.1 A Summary of Proposed Relationships between the Bases of Power and Consequences of Bases of Power.

Note: —> Independent Effects; <-> Interdependence

## Subjects

Ninety-three undergraduate engineering students (64 males, 29 female) of a premier institute of technology participated in the study. The age of the subjects ranged between 18 to 21 years with mean age as 20.3 years.

## Experimental Manipulations

Basis of power was manipulated by using 12 hypothetical scenarios presented on separate sheets. Each scenario had two versions: One in which the supervisor was male and another in which the supervisor was female. There was a common story line for the 12 scenarios, followed by a single statement related to a particular basis of power and five questions related to the dependent measures. Thus the 12 scenarios were common except for a critical statement that related to a particular basis of power. The following common scenario was presented.

"You are a B.Tech student. Dr. Rajive/Sonia is your project supervisor. He/She offers various suggestions to you - -. Sometimes you follow these suggestions and at other times you do not.

You have designed your B.Tech project based on a particular experimental procedure. But Dr. Rajive/ Sonia also wants you to adopt an additional procedure with which you are not fully acquainted. He/She said:

(The above scenario was followed by one of the following statements)

- (a) "Your non-compliance with my request had caused a lot of difficulties to my previous project. So this time I have the right to ask you to make up for it by also adopting the additional procedure." (Legitimate power of equity)
- (b) "I like you very much I have always used this additional procedure, why don't you also adopt it." (Referent power)

- (c) I will give you extra credit for work, if you also adopt the additional procedure." (Impersonal reward power)
- (d) "I have found researchers using both procedures for better results. Why don't you also adopt the additional procedure." (Information power)
- (e) "Look, I am not going to force you. But a lot of my work depends upon you. Why don't you also adopt the additional procedure." (Legitimate power of the responsibility)
- (f) "I will not approve of your work, if you don't also adopt the additional procedure." (Personal coercive power)
- (g) "I have friendly relations with the member of your project committee that can affect the evaluation of your project. Why don't you also adopt the additional procedure." (<sup>connection</sup> ~~Coercive~~ power)
- (h) "I have a lot of experience in this area. Why don't you also adopt the additional procedure." (Expert power)
- (i) "You will lose your credit, if you don't also adopt the additional procedure." (Impersonal coercive power)
- (j) "Because I have helped you out of my way in the past, I expect you to return this favour by also adopting the additional procedure." (Legitimate power of reciprocity)
- (k) "I will appreciate if you also adopt the additional procedure." (Personal reward power).
- (l) "As a supervisor I have the right to ask you to also adopt the additional procedure." (Formal Legitimacy)

## **Dependent Measures**

After reading each scenario, subjects were asked to respond to a series of questions. These questions were related to (a) the likelihood of subject's compliance with supervisor; (b) the likelihood of being under surveillance; (c) the likelihood of internalisation with supervisor; (d) the likelihood of identification with supervisor; and (e) the extent of liking for supervisor. The order of these five questions was same in all the scenarios. The dependent measures were obtained on seven point scales.

## **Procedure**

Subjects were given the twelve hypothetical scenarios in which the project supervisors used each of differing bases of social power to influence the student (subject) to adopt an additional procedure for working on the project. Some of the respondents were given the scenarios in which the supervisor was male and others were given the scenarios in which the supervisor was female. After going through each scenario, subjects answered the five questions related with the dependent measures.

## **RESULTS AND DISCUSSION**

MANOVA was conducted using the SPSS independently for each dependent variable. The findings of the study are reported below

### **Compliance with Supervisor**

The results of the analysis for compliance are presented in Table D1 (Appendix D). The significant results are reported in Table 3.1. Results revealed significant main effect of basis of power ( $F(11,979)=8.59, p < .00$ ) for compliance with supervisor.

The interaction effect of bases of power with sex of the subject was also significant ( $F(11,979)=2.79, p<.001$ ). The results of simple main effects analysis indicated that for compliance there was significant difference in bases of power for both the genders: male ( $F(11,979)=2.114, p<.05$ ); female ( $F(11,979)=9.22, p<.00$ ). No significant difference was found between male and female subjects at any level of the basis of power. The interaction of basis of power with sex of supervisor and the higher order interaction between basis of power, sex of supervisor and sex of subject was not significant.

Table 3.1 Summary of Significant MANOVA Results for Compliance.

Source	F.(df1, df2)
C	8.59 (11,979)**
B*C	2.79 (11,979)**
C at b1	2.14 (11,979)*
C at b2	9.22 (11,979)**

Note: C = Basis of power; B = Sex of subject; b1 = Male subjects; b2 = Female subjects

For numerical values: \*\*  $p < .01$ , \*  $p < .05$ .

The results of cell means comparison (Table 3.2) for compliance as a function of basis of power indicated that there was maximum compliance for legitimate power of responsibility followed by personal coercive and minimum compliance for formal legitimacy. The mean compliance scores for responsibility and personal coercive were found to be significantly different from formal legitimacy, equity, reciprocity and connection power. Reward, Coercive, referent, expert, information and responsibility power bases were not significantly different from each

other and compliance was rated higher for these bases of power than for others (see Table D2 in Appendix D).

These results support the stated hypothesis that basis of power used by supervisor influences the subordinates' compliance with supervisor. The results for compliance with coercive power and reward are consistent with the results reported by

**Table 3.2 Mean Compliance Scores and SDs as a Function of Supervisors' Bases of Power.**

	FL	EQU	REC	CP	PRP	REF	IRP	IP	ICP	EP	PCP	RES
Mean	4.50	4.69	4.86	4.89	5.23	5.25	5.33	5.33	5.36	5.36	5.48	5.62
SDs	1.94	1.93	1.77	2.01	1.61	1.61	1.70	1.54	1.86	1.67	1.91	1.26

Note: CP = Connection; EP = Expert; EQU = Legitimate power of equity; FL = Formal legitimacy; ICP = Impersonal coercive; IP = Information; IRP = Impersonal reward; PCP = Personal coercive; PRP = Personal reward; REC = Legitimate power of reciprocity; REF = Referent; RES = Legitimate power of responsibility.

Pellegrini and Rubin (1974) in which recipients exposed to coercive power were seen as far more likely to comply than were those exposed with reward. However, for legitimate power (formal legitimacy) the present results are inconsistent with the above study in which legitimate power elicited greater compliance as compared to expert and referent power. In the present study, on the other hand, there was least compliance with formal legitimacy, while expert and referent power were more significant reasons for compliance.

### **Surveillance**

The results of the analysis are presented in Table D3 (in the Appendix D) and in Table 3.3. The results indicate that the basis of power significantly affect the likelihood

of being under surveillance [F (11,979) = 12.96, P < .00]

The internal mean comparison (Table 3.4) showed that there was less likelihood of being under surveillance when there were information and legitimate power of responsibility as for these bases of power there was more likelihood of incorporating the additional procedure in the absence of supervisor. Expert, referent and personal reward power were not significantly different from information and legitimate power of responsibility. When there was formal legitimacy there was more likelihood of being

Table 3.3 Summary of Significant MANOVA Results, for Surveillance.

Source	F.(df1, df2)
C	12.96 (11,979)**
B*C	2.24 (11,979)**
C at b1	5.19 (11,979)**
C at b2	9.98 (11,979)**

Note: C = Basis of power; B = Sex of subject; b1 = Male subjects b2 = Female subjects. For numerical values: \*\* p < .01, \* p < .05

Table 3.4 Mean Ratings and SDs for Surveillance as a Function of Supervisors' Bases of Power.

	FL	EQU	REC	PCP	ICP	CP	IRP	PRP	REF	EP	RES	IP
Mean	3.01	3.28	3.31	3.38	3.42	3.50	3.73	4.11	4.19	4.30	4.95	4.57
SDs	1.85	1.95	1.97	2.05	2.02	2.11	2.11	1.91	1.92	1.88	1.90	1.80

Note: The higher the mean score in a cell the higher the likelihood of incorporating the additional procedure in the absence of supervisor, which indicates the less likelihood of being under surveillance.

CP = Connection; EP = Expert; EQU = Legitimate power of equity; FL = Formal legitimacy; ICP = Impersonal coercive; IP = Information; IRP = Impersonal reward; PCP = Personal coercive; PRP = Personal reward; REC = Legitimate power of reciprocity; REF = Referent; RES = Legitimate power of responsibility.

under surveillance as for likelihood of being under surveillance as for this basis of

power there was less likelihood of incorporating the additional procedure in the absence of supervisor. Legitimate power of equity, reciprocity, personal and impersonal coercive power and connection powers were not found to be significantly different from formal legitimacy regarding the surveillance (see Table D4 in Appendix D).

These results provide support to our hypothesis that basis of power used by supervisor influences the importance /need of surveillance. The present results are in tune with the findings reported by Litman - Adizes, Raven and Fontaine (1978) that like coercive power surveillance is necessary for legitimate power also; for reward power surveillance is necessary only for initial compliance. According to Raven and Kruglanski (1970) reward power soon leads to acceptance as a secondary effect, and does not require surveillance later on. The results for other bases of power are consistent with social power theory (French and Raven 1959) and other previous reports (Raven, 1974; Raven and Kruglanski, 1970; Litman - Adizes, Raven and Fontaine (1978).

The interaction between basis of power and sex of subject was also significant ( $F(11,979) = 2.24, p < .01$ ). The results of simple main effect analysis indicated that there was no difference between male and female subjects at any level of the bases of power regarding surveillance. However, there was significant difference in bases of power regarding surveillance for both male ( $F(11,979)=5.19, p<.01$ ) and female ( $F(11,979)=9.98, p < .00$ ) subjects. The other two interactions of bases of power with sex of supervisor and with sex of the supervisor and sex of the subject were not significant.



## Identification with Supervisor

The results of MANOVA for identification with supervisor are presented in Table D5 (in the Appendix D) and in Table 3.5. These results revealed a significant main effect of basis of power ( $F(11,979) = 49.52, p < .00$ ) for identification with supervisor. Interaction was significant for basis of power and sex of the subordinate ( $F(11,979) = 3.08, p < .00$ ). Other two interactions for basis of power with sex of supervisor and basis of power with sex of supervisor and sex of subordinate were not significant. The results of simple main effect analysis for sex of the subject and basis of power indicated no significant difference in male and female subjects for identification with supervisor at different levels of basis of power. There was significant difference in bases of power for identification with supervisor for both male ( $F(11,979) = 21.83, p < .00$ ) and female ( $F(11,979) = 30.29, p < .01$ )

Table 3.5 Summary of Significant MANOVA Results for Identification.

Source	F.(df1, df2)
C	49.52(11,979)**
B*C	3.08(11,979)**
C at b1	21.83(11,979)**
C at b2	30.29(11,979)**

Note: C = Basis of power; B = Sex of subject; b1 = Male subject; b2 = Female subject.  
For numerical values: \*\*  $p < .01$ , \*  $p < .05$ .

The result of cell means (Table 3.6) comparison for identification as a function of bases of power showed the maximum identification with supervisor under expert power followed by information and referent power and these three were not significantly different from each other. There was minimum identification with

supervisor under coercive power, both personal and impersonal, formal legitimacy, legitimate power of equity and difference between these bases of power was not significant for identification with supervisor (see Table D6 in the Appendix D).

Table 3.6 Mean Identification Scores and SDs as a Function of Supervisors' Bases of Power.

	PCP	ICP	FL	EQU	CP	REC	IRP	RES	PRP	REF	IP	EP
Mean	2.32	2.39	2.76	2.85	3.09	3.23	4.17	4.51	4.69	4.87	5.01	5.02
SDs	1.66	1.58	1.59	1.69	1.95	1.88	1.79	1.58	1.60	1.71	1.55	1.67

Note: CP = Connection; EP = Expert; EQU = Legitimate power of equity; FL = Formal legitimacy; ICP = Impersonal coercive; IP = Information; IRP = Impersonal reward; PCP = Personal coercive; PRP = Personal reward; REC = Legitimate power of reciprocity; REF = Referent; RES = Legitimate power of responsibility.

These results also support the stated hypothesis that basis of power used by supervisor influences the subordinates' identification with supervisor. These results are in tune with findings of Pellegrini and Rubin 1974 in which coercive influence resulted in greater perceived dislike for the agent than did any of the other five bases of power.

### **Internalisation with Supervisor**

The results showed that basis of power has significant effect ( $F(11,979)=26.08, p<.00$ ) on internalisation with supervisor. The results are presented in Table D7 (in Appendix D) and Table 3.7

The comparison of cell means given in (Table 3.8) showed that there was maximum internalisation with supervisor's suggestions for information power and minimum internalisation for formal legitimacy. There was no significant difference for formal legitimacy, connection power, personal coercive, impersonal coercive and legitimate power of reciprocity and less internalisation was shown for these basis of

power. Expert power and information powers were not significantly different from each other and for these two there was more internalisation than for any other bases of power (see Table D8 in Appendix D).

Table 3.7 Summary of Significant MANOVA Results for Internalisation.

Source	F.(df1, df2)
C	26.08(11,979)**
B*C	2.51(11,979)**
C at b1	8.61(11,979)**
C at b2	19.89(11,979)**

Note: C = Basis of power; B = Sex of subject; b1 = Male subject; b2 = Female subject. For numerical values: \*\*  $p < .01$ , \*  $p < .05$ .

Table 3.8 Mean Internalisation Scores and SDs as a Function of Supervisors' Bases of Power.

	FL	CP	PCP	ICP	REC	EQ	IRP	RES	REF	PRP	EP	IP
Mean	2.98	3.12	3.19	3.28	3.37	3.46	3.81	4.05	4.24	4.26	4.71	5.03
SDs	1.75	1.91	1.92	1.87	1.89	1.82	1.96	1.75	1.86	1.71	1.65	1.65

Note: CP = Connection; EP = Expert; EQU = Legitimate power of equity; FL = Formal legitimacy; ICP = Impersonal coercive; IP = Information; IRP = Impersonal reward; PCP = Personal coercive; PRP = Personal reward; REC = Legitimate power of reciprocity; REF = Referent; RES = Legitimate power of responsibility.

The results are in line with the stated hypothesis that basis of power used by supervisor influences the subordinates' internalisation with supervisor. These results are consistent with the previous findings (Litman - Adizes, Raven and Fontaine, 1978) which reported information power to be most effective for a private acceptance of change and coercive and formal legitimacy to be least effective. The results for coercive power contradict Pellegrini and Rubin (1974) who reported coercive power to be effective for internalisation. Shaw and Condelli (1986) found that coercive and reward

powers prevent private acceptance while referent, expert, legitimate and information illicit private acceptance. On the other hand, present study reports that legitimate power prevents private acceptance, but reward power elicits private acceptance.

The interaction between basis of power and sex of the subject was significant ( $F(11,979) = 2.51, p < .00$ ) for internalisation with supervisor. The results of simple main effects analysis indicated that for internalisation there was significant difference in bases of power for both the male ( $F(11,979) = 8.61, p < .00$ ) and female ( $F(11,979) = 19.89, p < .00$ ) subjects but there was no significant difference between male and female subjects at any level of the basis of power. Other two interactions were found not to be significant.

### **Liking for Supervisor**

The results of MANOVA for liking for supervisor are presented in Table D9 (in Appendix D) and in Table 3.9. The results showed significant main effect of basis of power ( $F(11,979) = 53.42, p < .00$ ) for liking for supervisor. Interactions were significant for basis of power with sex of the supervisor ( $F(11,979) = 2.42, p < .00$ ) and basis of power with sex of the subject ( $F(11,979) = 2.86, p < .001$ ). The higher order interaction between bases of power, sex of the supervisor and sex of the subject was not significant.

The results of simple main effects analysis for sex of the supervisor and basis of power indicated there was significant difference in basis of power for liking for supervisor for both males ( $F(11,979) = 35.89, p < .00$ ) and females ( $F(11,979) = 20.05, p < .00$ ) and no significant difference was found between male and female supervisors at different bases of power. There was also significant difference in bases of power for liking for supervisor for both males ( $F(11,979) = 26.08, p < .00$ ) and

females ( $F(11,979)=26.08, p < .00$ ) and no significant difference was found between male and female subjects at different levels of bases of power for liking for supervisor.

Table 3.9 Summary of Significant MANOVA Results for Liking.

Source	F.(df1, df2)
C	53.42(11,979)**
A*C	2.42(11,979)**
C at a1	35.89(11,979)**
C at a2	20.05(11,979)**
B*C	2.86(11,979)**
C at b1	26.08(11,979)**
C at b2	26.08(11,979)**

Note: C = Basis of power; A = Sex of supervisor; a1 = Male supervisor; a2 = Female supervisor; B = Sex of subject; b1 = Male subject; b2 = Female subject.  
For numerical values: \*\*  $p < .01$ , \*  $p < .05$ .

The comparison of means for liking as a function of bases of power (Table 3.10) showed that information power led to the most positive feelings followed by referent and expert power and These were not significantly different from each other for liking for supervisor. Coercive power led to most negative feeling for supervisor. coercive power, formal legitimacy, equity and connection powers were found to be significantly different from reward, legitimate power of responsibility. expert, referent and information for liking for supervisor (see Table D10 in Appendix D).

Thus the results provide support to our hypothesis that basis of power used by supervisor influences the subordinates' liking for supervisor. These results are consistent with previous research findings (Litman-Adizes, Raven and Fontaine, 1978) revealing referent, information and reward power as most conducive to a good personal

Table 3.10 Mean Liking Scores and SDs as a Function of Supervisors' Bases of Power

	PCP	ICP	FL	EQ	CP	REC	IRP	PRP	RES	EP	REF	IP
Mean	2.22	2.51	2.59	2.76	2.81	3.29	4.09	4.68	4.69	4.79	4.95	5.04
SD	1.61	1.69	1.49	1.51	1.75	1.91	1.72	1.63	1.61	1.66	1.64	1.49

Note: CP = Connection; EP = Expert; EQU = Legitimate power of equity; FL = Formal legitimacy; ICP = Impersonal coercive; IP = Information; IRP = Impersonal reward; PCP = Personal coercive; PRP = Personal reward; REC = Legitimate power of reciprocity; REF = Referent; RES = Legitimate power of responsibility.

climate. The present findings also support Kipnis (1976) Strickland's (1958) and Kruglanski's (1970) findings that coercive power is associated with devaluating the worker as unworthy.

French and Raven (1959) and Raven and Kruglanski (1970) predicted that referent power increases positive attraction for agent, whereas target often feels ambivalent toward agent with legitimate and expert power and no prediction was made for information power. The findings of the present study indicated that information power and expert power lead to positive feelings and formal legitimacy lead to negative feelings toward the agent.

The present experiment was an attempt to operationalise the expanded "Power/interaction model of interpersonal influence" (1992a, 1993) and in this way it was different from the earlier experiments (Litman-Adizes, Raven and Fontaine, 1978; Pellegrini and Rubin 1974; Raven 1974; Shaw and Condelli 1986). The important contributions of this experiment are the following findings: (a) There was no significant difference between personal and impersonal form of reward and coercive power. This finding does not support the expanded power/interaction model of interpersonal influence (Raven 1992a, 1993) in which reward and coercive power

bases have been classified into personal and impersonal category. (b) There was a significant difference between different forms of legitimate power, which indicates legitimate power is not only based on authority but also on other social norms like reciprocity, equity and responsibility. These findings support the expanded power/interaction model of interpersonal influence (Raven 1992a, 1993) in which legitimate power is differentiated into four forms.

The findings of the present study are generally consistent with social power theory (French and Raven, 1959) and the results of previous experiments (Raven, 1974; Raven and Kruglanski 1970; Litman - Adizes, Raven and Fontaine, 1978; Shaw and Condelli 1986). In general, coercive and formal legitimacy bases of were found to be least effective and desirable and information and expert to be most desirable in terms of surveillance, identification, internalisation and liking. Legitimate power of reciprocity, responsibility, and equity and connection, referent, reward bases of power generally fall in between effectiveness and desirability.

The results on interactions between bases of power, sex of supervisor and sex of subject indicate that the effects of different bases of power on outcome variables do not vary for male/female subjects and male/female supervisors. These findings suggest that supervisor's influence on subordinates depends upon the bases of power used by the supervisor and not on the sex of supervisor or of subordinate.

## Chapter 4

# **GENERAL DISCUSSION, SUMMARY AND CONCLUSION**

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## An Overview

This chapter provides an overall understanding of the phenomenon of social power. It presents a global view of the findings of the present research. This chapter also identifies potential limitations of the present study and indicates directions for future research and applications in organisations.

The chapter has been divided into four parts. The first part is related to general discussion describing the convergence between the results of survey and experimental study and examining the proposed model of the present study in light of the obtained findings. The second part presents a summary of the present work in four sections. The first section gives an outline of the development of measures of bases of power and identifies the bases of power prevalent in formal organisations especially in Indian context. The second section sums up findings related to the antecedent variables of bases of power investigated in the present study. It also describes how the use of bases of power varies according to organisation type and managerial level of supervisor and subordinate. The third section depicts the effect of bases of power on outcome variables. Fourth section presents a summary of the role of antecedent variables in the relationship between bases of power and outcome variables.

The third part highlights the conclusions of the present work. The last part of this chapter deals with implications for future research and for organisations, and potential limitations of the present study.

## GENERAL DISCUSSION

This study was aimed at examining the bases of power used by supervisors for getting compliance from their subordinates. Other concerns of the study were to examine the antecedents and consequences of bases of power and how antecedents of bases of power moderate the relationships between bases of power and consequences of bases of power.

The findings of the study indicate that out of twelve bases of power suggested in Raven's (1988,1992a,1993) model only seven bases of power are used in Indian organisations. These seven bases of power emerged in four categories namely reward (personal reward and impersonal reward), coercive (personal coercive and impersonal coercive), credibility (expert and information) and legitimate power of reciprocity for the sample studied in the present study.

The constellation of personal and impersonal forms of reward and coercive power suggest that respondents did not distinguish between personal forms (e.g. approval and disapproval) and impersonal forms (promise of promotion and threat of demotion) of reward and coercive power. This differentiation was also not found in the experimental study for compliance and other outcome variables like, surveillance, identification, internalisation, and liking. Thus no support for the reclassification of reward and coercive power into personal and impersonal forms in expanded power/interaction model of interpersonal influence was found. This finding appears to be relevant to cultural context of India. In Indian culture there is a tendency in people not to differentiate between personal and impersonal things. Examples can be seen in the close relation between work and domestic life or environment in Indian

organisations. According to Sinha (1982) in the Indian organisations personal and impersonal relations go together. The reason may be close physical proximity in which Indians live. It facilitates continued and intense social interaction.

The results of the present study also suggest that people usually do not differentiate between supervisors' information and expert power. This finding is in consonance with the one reported by Raven et.al (1998). The experimental study also indicated no significant difference between expert and information power for compliance, identification, internalisation, surveillance and liking for supervisor. The reason for this undifferentiated perception may be due to the presence of a symmetric relationship between the two bases of power: (1) when some person who is considered as an expert gives some suggestion, the other person may assume that being an expert he must be having some information; (2) when good reasons are explained by some person, the other person may attribute expertise to him. This argument is similar to the one presented by Raven et.al (1998) on a definitional overlap between the two concepts.

The respondents made a distinction between four forms of legitimate power: formal legitimacy, legitimate power of reciprocity, legitimate power of equity; and legitimate power of responsibility proposed in the expanded power/interaction model of interpersonal influence (Raven, 1992, 1993). In the survey study out of the above four forms of legitimate power, legitimate power of reciprocity emerged as a reason for subordinates' compliance with supervisor. In the experiment subjects reported distinction for these four forms of legitimate power for their compliance, identification, internalisation and liking for supervisor. It also indicated differences between these four forms of legitimate power for importance of surveillance.

The present study indicates that credibility power basis is most widely used for getting compliance from subordinates. Raven et.al (1998) also found most frequent use of credibility power basis out of all the power bases. This finding thus indicates the effectiveness of credibility power basis across cultural boundaries. However, for other bases of power order of usage is not consistent with earlier studies. In other studies (Rahim, Kim and Kim, 1994; Raven, et.al, 1998) legitimate power based on position has been reported to be first or second in order. While in the survey study conducted for the present work legitimate power based on position did not emerge as reason for subordinates' compliance with supervisor. In the experiment also it was rated lower than other forms of legitimate power. This finding is quite surprising in a country like India where society is hierarchical in nature. Kakar (1978) has observed that an Indian is born with a ready-made rule book for social relationships and his social roles are arranged in hierarchical order, that is, of superior-subordinate relationship. Perhaps it may be the reason that the concept of authority is inbuilt in Indian people, but they do not consciously use or report it to get compliance from and comply with other persons.

Convergence between findings of the experimental and survey studies regarding the relationship between bases of power and outcome variables was also evident. The results of survey and experiment converged for internalisation and identification indicating more internalisation and identification with credibility power basis than with coercive power basis. Thus there was a support for the findings of Litman-Adizes, Raven and Fontaine (1978) in which information power was found to be most effective and coercive and formal legitimacy least effective for private acceptance of change. Findings related to identification with supervisor support

another study in which coercive influence resulted in greater perceived dislike than did any of the other power bases (Pellegrini and <sup>Rubin</sup>Raven, 1974).

On the contrary the results of experiment and survey study did not converge for compliance with supervisor. In the experiment coercive power emerged as a significant reason for compliance while in survey study credibility and reward power bases were found to be significant reasons for compliance. The survey study revealed that effect of coercive power on compliance was contingent upon legitimate power of reciprocity. Only at low legitimate power of reciprocity was coercive power positively related with compliance with supervisor. One possible reason for the difference in findings may be that the situations in which studies were conducted were different. The survey was concerned with examining the superior-subordinate relationship in work organisations while in the experiment a hypothetical scenario was related to project supervisor and student relationship. Another reason may be related to the fact that the samples for the two studies were different from each other.

Regarding the antecedents of bases of power it was found that use of bases of power by supervisor is determined mainly by quality of interaction between subordinate and immediate supervisor on the dimension of perceived contribution and supervisor's degree of control over subordinate. When the quality of interaction between subordinate and immediate supervisor is high supervisor uses more reward, legitimate reciprocity and credibility power bases and less coercive power base. These findings are consistent with the results of earlier studies (Graen and Cashman, 1975; Thibodeaux, III, and Lowe, 1996) in which in-group members (high quality of interaction) reported greater use of expert, referent, and reward power by their supervisors than did out-group members (low quality of interaction). But, in addition,

the present study also indicates that when quality of interaction is low the use of bases of power is determined by high degree of control. In this situation supervisor uses more reward, legitimate reciprocity, credibility as well as coercive power bases for subordinates having low quality of interaction than for subordinates having high quality of interaction.

The above findings may be understood in light of the type of relationship between supervisor and subordinate in high and low quality of interaction. In high quality of interaction supervisor and subordinate experience reciprocal influence; extra contractual behaviour; mutual trust and liking; and internalisation of common goals (Crouch and Yetton, 1988; Duchon, Green, and Taber, 1986; Hosking and Morely, 1988). In these types of relationship supervisor is not supposed to increase the use of bases of power as his degree of control increases to get compliance from subordinates. On the other hand, relationships between supervisor and subordinate in low quality of interaction are characterised by unidirectional downward influence, contractual behaviour exchange, formal role-defined relations, and loosely coupled goals (Dansereau, Graen and Haga, 1975; Graen, 1976; Graen and Schiemann, 1978, Vecchio, 1982). In this type of relationship supervisors have to put in more effort to get the compliance of subordinates by increasing the use of all bases of power as their degree of control on subordinates increases. Thus the findings support the model for the effect of quality of interaction and degree of control on bases of power but not for the effect of climate on the use of bases of power.

The findings of the study partially support the model proposed in this thesis, which suggest that usage of power vary according to organisation type. Variations for the usage of only reward and coercive power was found in the present study. But

there were no such variations for legitimate power of reciprocity and credibility power basis. In addition present findings also suggest that ownership does not independently affect the use of reward power; the use of reward power is contingent upon the nature of organisation. Reward power was found to be used more in private manufacturing organisations than in public manufacturing organisations. This difference may be due to the differences in policies of public and private organisations. Public organisations are supposed to work on the principle of equality where everyone gets equal reward regardless of performance and everything is based on time and out of term promotions are very few. On the other hand private organisations follow the principle of equity. The findings of this study also indicated no difference between public service and private service organisations for the use of reward power. This finding is inconsistent with the finding of the study conducted by Singh (1989) in nationalised banks and private banks. Singh's study indicated greater use of reward power in nationalised banks than in private banks. The reason for this inconsistency may be that the present study included the insurance sector and finance companies in addition to banks under the category of service providing companies. The present study also revealed that in general reward and coercive power are used more in manufacturing organisations than in service organisations. The reason of it may be that in manufacturing organisations the work output is in tangible form which can be easily quantified. On the other hand in service organisations the quantification of work output is not easy as most of it is in intangible form. Therefore, it is likely that in manufacturing organisations reward and coercive powers get conspicuously associated with the work output and hence used more than in service organisations.

The findings of this study do not support the predictions of the proposed

model related to independent effect of the managerial level of supervisor and of subordinate. However, the findings do support the model for combined effect of supervisors' status and status of the subordinates on the use of bases of power. Thus these findings do not support the earlier studies (Frost and Stahelski, 1988; Yukl and Falbe, 1991) which reported variations in the use of bases of power either according to the status of supervisor or status of subordinate. Results of the present study also indicate variations only in the use of coercive and legitimate power of reciprocity but not in the use of reward and credibility power bases according to combined effect of status of supervisors and subordinates. The reason for reported variations in the use of legitimate power of reciprocity and coercive power may be related to the nature and effect of these bases of power. Both the survey and experimental study indicated that these bases of power are likely to have negative effect or no effect on different variables like identification, internalisation, satisfaction and liking etc. and also on need surveillance of target person. These may be the reasons that supervisors use these bases of power consciously keeping in mind their status in the organisation as well as the status of subordinates.

Findings of the present study also support the model regarding the moderating effects of antecedents of bases of power on the relationship between bases of power and outcome variables. This support was found for the relationships between bases of power and subordinates' identification, internalisation and performance but not for subordinates' compliance and satisfaction with supervisor. Quality of interaction between supervisor and subordinates was found to be the major significant moderator and in some cases participative climate was also found to moderate the effect of reward, coercive and legitimate power of reciprocity on subordinates' identification,



internalisation and performance.

In general the findings indicated that when quality of interaction is high between supervisor and subordinate, more use of reward power and less use of coercive power is more desirable in terms of subordinates' identification and internalisation with supervisor. In high quality of interaction, low versus high use of legitimate power of reciprocity does not make significant change in identification with supervisor. Regarding the effect of quality of interaction on the relationship between legitimate power of reciprocity and performance of subordinates, the findings indicate that in low quality of interaction, the use of low legitimate power of reciprocity is more desirable than high legitimate power of reciprocity. The reason for this may be that low quality of interaction is characterised by unidirectional downward influence and contractual behaviour exchange. In this type of relationship, putting the pressure on subordinates to perform better by using high legitimate power of reciprocity may have boomerang effect. So, in low quality of interaction, the less use of legitimate power of reciprocity may have more desirable effects in terms of subordinates' performance. Regarding the effect of participative climate, it was found that subordinates perform better when supervisor uses less coercive power.

The above discussion indicates that most of the relationships proposed in the model of present study were supported. The reasons for some relationships that were not verified may partly be attributed to limitations of the study and partly to the basis, which were taken as a support to the proposed relationships. The relationships were proposed on the basis of studies conducted in another culture than India and it is quite possible they are specific to that culture. Sinha (1982) also pointed out that Indian organisations are in some ways unique and their uniqueness has significant

implications to organisational behaviour including power relationship. Further investigation is needed in this direction.

## **SUMMARY**

### **The Background**

The review of literature related to social power revealed some gaps in empirical findings. On the basis of these gaps some objectives were identified for the present work. To fulfil these objectives, a survey was conducted as well as an experiment on some aspects of power was performed in order to have more confidence in findings. The survey was conducted in 19 organisations, which could be categorised into four types based on the service/manufacturing and public/private combinations. The sample consisted of 462 executives randomly drawn from these organisations.

The survey employed a questionnaire involving a number of measures to assess the bases of power, their predictors and criteria. Before the measures were subjected to factor analysis all measures were examined on some psychometric criteria, on the basis which measures of power distance and satisfaction with work were dropped. For other measures psychometric properties were thoroughly checked with the help of descriptive statistics, correlations, varimax rotated factor analysis and cronbach's coefficient alpha. Each of the measures was found to have substantial reliability. The final analyses testing the various hypotheses were subjected to MMRA and ANOVA.

The experiment employed hypothetical scenarios in which undergraduate

engineering students of a premier institute of technology participated. It was aimed at examining the effect of different bases of power on outcome variables and how the sex of supervisor and subordinate interact with bases of power to effect the outcome variables. A repeated measures  $2(\text{sex of supervisor}) \times 2(\text{sex of subordinate}) \times 12(\text{bases of power})$  factorial design with repeated measures on bases of power and Tukey Honestly Significant Difference test were employed in order to analyse the data and test the hypotheses.

### **Bases of Power**

The first objective of this research was to develop a multidimensional psychometrically sound scale to measure different bases of power proposed by French and Raven (1959), Raven (1965, 1992a, 1993) and Hersey, Blanchard and Natelymeyer (1979). To meet this objective 72 items were framed for different power measures on the bases of their conceptualisation and review of previous scales. The content validity of these items was tested through the judgement of 23 judges from different disciplines (Psychology, English, Linguistics, Economics and Sociology). On the basis of content analysis 51 items were selected presenting different bases of power. After collecting the data for these items, item analysis was done. Finally 42 items were subjected to factor analysis.

The results of factor analysis indicated that, for the population and situation that were studied, out of 12 bases of power, only some are used and these can be grouped into the following four factors (1) reward power (both personal and impersonal), (2) legitimate power of reciprocity, (3) coercive power (both personal and impersonal), and (4) credibility (expert and information).

Thus the final scale for bases of power consisted of four subscales with 23

items. The reliability of the subscales ranged from .72 to .89. Although some of the scales were overlapping, they were only moderately intercorrelated (Average  $r = .35$ , computed by using Fisher's Z function) Thereby showing a great deal of independence among the factors. The correlations of the four bases of power measures with social desirability scale (Crowne and Marlow, 1960) showed that the factors were weakly correlated or completely unrelated to social desirability. This fact may be taken as partial evidence that item responses were free from social desirability effect. The test-retest reliability of the scale was considerable and ranged between .57 to .65 for the subscale. The criterion - related validity and discriminant validity of the scale were also considerably high.

### **Antecedents of Bases of Power**

The second objective of the study was to examine the effect of some antecedents variables (contextual and organisational) on the use of power bases.

The results of the study indicated that among three contextual variables, namely, climate, degree of control and quality of interaction only quality of interaction and degree of control are the significant predictors of the use of power bases. Quality of interaction based on perceived contribution was positively related with reward, legitimate power of reciprocity, and credibility power bases. These findings indicate that the use of these bases of power is more determined by work related behaviour of subordinate and supervisor than by liking for each other. The use of coercive power was related with degree of control of supervisor over subordinate and both were positively related to each other.

Any influence process is not determined by single variable, but more than one variables interact to determine the behaviour. In the light of this rationale

interactions between contextual variables were also computed for bases of power.

The results for reward, legitimate power of reciprocity, and credibility power indicated that effect of quality of interaction on these bases of power is moderated by supervisors' degree of control on supervisor. When there was low degree of control there was found no noticeable difference in the use of these bases of power for subordinates having low and high quality of interaction with supervisor. But when supervisors' degree of control was high they used more reward, legitimate power of reciprocity and credibility power bases for low quality of interaction than for high quality of interaction subordinates. The effect of quality of interaction on credibility power basis was moderated by participative climate of the organisation. The results indicated when organisational climate is highly participative supervisor uses more credibility power basis for subordinates having low quality of interaction on the dimension of affect.

The effect of degree of control on coercive power basis was found to be moderated by quality of interaction between supervisor and subordinate on the dimension of perceived contribution. When quality of interaction between supervisor and subordinate is low supervisors increase the use of coercive power with the increase of degree of control over subordinate. But when quality of interaction is high supervisor uses less coercive power even in the condition of high degree of control.

The use of bases of power was also found to vary according to organisation type and managerial level of supervisor and subordinate. Reward basis of power was found to be more frequently used in private manufacturing organisations than in public manufacturing organisations. The use of coercive power was found more in

manufacturing organisations than in service organisations. The effect of organisation type was found not to be significant for legitimate power of reciprocity and credibility power basis.

The results for the effect of managerial level of supervisor and subordinate on the use of power bases indicate that the use of bases of power by supervisor is not only determined by the status of supervisor but the status of the subordinate also plays a significant role. These results suggest that legitimate power of reciprocity and coercive power are significantly affected by the relative status of supervisor and subordinate but not reward and credibility power bases.

### **Consequences of Bases of Power**

The third objective of the study was to examine the effectiveness of power bases in terms of different outcome variables. In order to have more confidence in findings, for this part of the study, some variables; namely, compliance, internalisation and identification were examined in both survey and experimental studies.

Credibility power basis including expert and information power emerged as the most desirable power bases in terms of different outcome variables. It was found to be positively associated with subordinates' satisfaction, internalisation, identification, compliance, and performance. In experimental study expert and information power were found to be most effective in terms of surveillance and liking for supervisor.

Coercive power was found to be least desirable and to be negatively related with subordinates' satisfaction, internalisation and identification with supervisor and unrelated to subordinates' performance. For compliance its effect was found to be

contingent upon legitimate power of reciprocity. However in the experiment it was found as a significant reason of compliance with supervisor. In terms of surveillance and liking it was found less effective.

Reward basis of power was positively related to subordinates' satisfaction, internalisation, identification, and compliance and unrelated to subordinates' performance. Legitimate power of reciprocity was not independently related to any outcome variable. For compliance its interaction was found to be significant with coercive power basis. In the experimental study reward and legitimate power of reciprocity were found to fall in between in terms of effectiveness and desirability.

### **Moderating Effect of Antecedent Variables on the Relationship between Bases of Power and Outcome Variables**

Previous studies on bases of power have examined the independent effect of bases of power on outcome variables. In the present study it was speculated that effectiveness of bases of power also depends on the context in which influence process takes place. This expectation was confirmed for some of the outcome variables in the present study. The effect of bases of power on compliance and satisfaction with supervisor was found to be unrelated with contextual variables. On the contrary internalisation, identification and performance, antecedent variables were found to be significant moderator.

For internalisation with supervisor, when contextual variables were taken into consideration, coercive power was found to be positively associated with internalisation with supervisor. This finding does not coincide with the result of direct effect of bases of power on internalisation in which internalisation was found to be negatively associated with coercive power. Quality of interaction between

supervisor and subordinate was found to be a significant moderator for bases of power and internalisation with supervisor. The effect of coercive power was contingent upon quality of interaction based on perceived contribution. High coercive power was found to be positively associated with internalisation only when quality of interaction was high on perceived contribution. Interactions between reward power and quality of interaction were also found to have significant effect on internalisation. There was more internalisation with supervisor when reward power was high and quality of interaction was also high on perceived contribution. Regarding the interaction between reward power and affect, there was no significant difference between high and low reward power at high affect. However, at low affect high reward power was associated with more internalisation than low reward.

The results for identification with supervisor indicate that in the presence of contextual variables, bases of power have no independent effect on it. The effect of bases of power on identification is moderated by quality of interaction and climate. Regarding reward basis of power, its effect on identification is moderated by quality of interaction. There was a maximum identification with supervisor when both reward power and quality of interaction on perceived contribution were high. The effect of legitimate power of reciprocity also depends upon quality of interaction based on perceived contribution. At high perceived contribution there was no visible difference between high and low legitimate power of reciprocity for identification. But at low perceived contribution, high legitimate power of reciprocity was associated with more identification than low legitimate power of reciprocity. For coercive power, its effect was moderated by both quality of interaction and participative climate. In participative climate low coercive power was associated with more



identification with supervisor than high coercive power. Regarding the effect of quality of interaction, there was more identification with high coercive power when quality of interaction was high on perceived contribution.

Coercive power was found to be positively associated with performance of the subordinate. This finding is also in contradiction with the result of direct effect of bases of power on performance in which coercive power was found to be unrelated with performance of the subordinate. The results for moderating effect indicate that the effect of coercive power on performance is moderated by participative climate. In participative climate low coercive power was found to be associated with better performance of the subordinates than high coercive power. The effect of legitimate power of reciprocity on performance is moderated by quality of interaction based on perceived contribution. At high perceived contribution there was no apparent difference between high and low legitimate power of reciprocity for performance. However, at low perceived contribution low legitimate power of reciprocity was found to be associated with more performance of subordinates than high legitimate power of reciprocity.

The above discussion indicates that contextual variables play a significant role in determining the effectiveness of different bases of power.

In experimental study, no significant difference was found between male and female supervisors and male and female subjects at any level of bases of power for different outcome variables. These findings indicate that effectiveness of power bases depends upon the bases of power used by supervisor not on the sex of either the supervisor or that of the subordinate.

## CONCLUSION

The present study was designed: (1) to examine the bases of power adopted by the supervisor to get compliance from their subordinates by developing psychometrically sound multidimensional measures of bases of power; (2) to examine the role of contextual, organisational and demographic variables on the use of bases of power; (3) to examine the impact of bases of power on outcome variables; and (4) to examine the role of contextual variables on the relationships between bases of power and outcome variables.

In general the majority of the hypotheses related to the above objectives were supported by the findings obtained in the present study. The model also got mixed support. Regarding the exploratory issues some were verified and the finding indicated that the effect of bases of power on internalisation, identification, and performance is contingent upon mainly the quality of interaction between supervisor and subordinate and climate of the organisation.

In conclusion it can be said that in Indian organisation supervisors use mainly four forms of power: reward, coercive, legitimate power of reciprocity and credibility. Credibility power basis is widely used and leads to most positive outcomes. Its effectiveness does not depend on any contextual variable. As well as it is used equally in each type of organisation and by every supervisor for each subordinate irrespective of his or her status in the organisation. The present study also indicates that reward and coercive power are more used in manufacturing organisations than in service organisations.

# IMPLICATIONS

## Issues for Researchers

The present findings suggest several directions for future research. The effect of different bases of power on the outcome variables is moderated by contextual variables. This finding suggests that other contextual variables relevant to bases of power also should be examined in this context. Future research should also examine personality variables along with contextual variables. This type of research will point out which of the two are more dominant determinant of, and how these variables interact to affect the use of bases of power.

The future research should also involve field experiments to get closer to reality. Findings will be considered more valid and generalizable if there is a convergence between the results of field experiment and survey study. This will also allow for better than partial convergence between experimental and survey findings as reported earlier.

Previous researchers have examined why the supervisors use different bases of power. Future research is also needed to investigate why subordinates comply with the supervisor employing a given basis of power. It may be extended to investigate the following questions: What is the motive behind subordinates' compliance? Why do the responses of subordinates vary for a given basis of power (individual differences)?

Research should also be designed to investigate whether the same bases of power are used for superiors and subordinates or these vary according to the status of target person.

Another important need in future research concerns examining the secondary

effects of bases of power pointed out by Raven (1992).

### **Implications for Organisations**

The present research has implications for individual managers as well as for organisations. It points out how different bases of power vary in terms of effectiveness and which are more successful bases of power over others. It also points out the importance of contextual variables to determine the effectiveness of power bases. These findings may help the subordinates to understand the factors which induce the managers to use more positive bases of power like credibility and reward as compared to the negative factors like coercive power basis. Quality of interaction between subordinates and their immediate supervisor has been reported to be a significant predictor as well as moderator for the effectiveness of bases of power. This points out the importance of relationship factor in Indian organisations. On the basis of this organisations can design training programmes for their superiors and subordinates. The superiors can be trained how to deal effectively with their subordinates and subordinates can be trained how they should develop their relationships with their superiors on the job dimensions. The effective use of bases of power will increase subordinates' satisfaction and in turn their performance, which lead to organisational effectiveness.

### **LIMITATIONS**

Like every behavioural science research the present research also has some limitations. The present study used mainly attitudinal measures for bases of power. Although the behavioural measures were also used but number of respondents was

very less. Greater confidence can be had in findings if the number of respondents would have been more in behavioural measures.

The moderating effects of contextual variables in relation to effect of bases of power on outcome variables were not examined in the experimental study. More confidence can be had in findings of the moderating effects of contextual variables if the results of experimental study also support the findings of the survey study.

In the experiment study, scenario was made for supervisor-student relationships and survey study was conducted for supervisor-subordinate relationships. More convergence may be possible if the scenario was also used for supervisor-subordinate relationships.

The present study did not examine the cultural characteristics in relation to bases of power. Findings may be better explained if cultural factors were included.

The present work is summarised in Table 4.1 and 4.2

**Table 4.1 Summary of Results (Survey Study)**

Objectives/Hypotheses	Scale, item, sample	Statistical analysis	Results
<p>1.To examine the bases of power adopted by supervisors to get compliance from their subordinates by developing psychometrically sound measures of bases of power</p>	<p>Bases of power 51 items N=510 (428 Subordinates, 34 Supervisors reported for 82 subordinates) organisations 19</p>	<p>1.Factor analysis (N=510)  2.Mean (SDs) , Correlations between factors  3 Scale Reliability (<math>\theta</math>)  4. Subscale reliability (<math>\alpha</math>)  5. Test-retest reliability (N=45)  6. Convergent validity (CV)  7. Discriminant Validity (DV)</p>	<p>1. 23 items Four factors (a) reward power (27.6%) (b) Legitimate power of reciprocity (6.8%) (c) Coercive power (4.2%) (d) Credibility power (3.2%) Total Variance 41.8%</p> <p>2. Mean (SDs) RW = 4.32 (1.60) REC= 3.94 (1.81) CO = 3.39 (4.96) CR = 4.96 (1.59) Moderately correlated (average <math>r = .35</math>)</p> <p>3. <math>\theta = .93</math></p> <p>4. <math>\alpha</math> RW= .89, REC=.82, CO=.83, CR=.72</p> <p>5. Test-retest=.57 - .65</p> <p>6. CV = .64 - .72</p> <p>7. DV= Fairly high</p>

<p>2. To examine the main and interaction effects of contextual variables on the use of bases of power.</p>		8. SD = .00 - -.13	<p>1 Significant Main Effects QI (PC) (<math>\beta = 1.00</math>) Significant Interaction Effects PC * DC (<math>\beta = -1.27</math>)</p>
<p>H1. Climate of the organisation influences the bases of power used by supervisor</p>	Sinha (1980)	1. MMRA for reward power	<p>2. Significant Main Effects QI (PC) (<math>\beta = 1.07</math>) Significant Interaction Effects DC*PC (<math>\beta = -1.62</math>) DC*AF (<math>\beta = .82</math>)</p>
<p>H2. The degree of control influences the bases of power used by supervisor</p>	Lakhtakia (1990)	3. MMRA for coercive power	<p>3. Significant Main Effects DC (<math>\beta = .51</math>)</p>
<p>H3. Quality of interaction between the subordinate and immediate supervisor influences the bases of power used by supervisor</p>	Based on Tondon (1990) and Liden and Maslyan (1993)	4. MMRA for credibility basis of power	<p>Significant Interaction Effects DC*PC (<math>\beta = -1.06</math>)</p>
<p>H4. Power distance between the subordinate and immediate supervisor influences the bases of power used by supervisor</p>	Developed	Analysis of variance	<p>4. Significant Main Effects QI (PC) (<math>\beta = .96</math>) Significant Interaction Effects PT*AF (<math>\beta = .44</math>) DC*PC (<math>\beta = -.93</math>) DC*AF (<math>\beta = .73</math>)</p>
<p>H5. Use of bases of power varies as a function of two-way interaction between climate, degree of control, quality of interaction and power distance</p>		1. ANOVA for Reward power	<p>1 Significant interaction OO*NO (<math>F(1,424) = 4.53, p &lt; .035</math>)</p>
<p>3. To examine the effect of organisation type i.e. ownership of organisation and nature of organisation on the use of bases of power</p>			

<p>H6. The use of bases of power by supervisor varies according to ownership of organisation</p> <p>H7. The use of bases of power by supervisor varies according to the nature of organisation</p> <p>H8. The use of bases of power by supervisor varies as a function of interaction between ownership and nature of organisation</p> <p>4 To examine the effect of managerial level of the supervisor and subordinate on the use of bases of power</p> <p>H9. The use of bases of power by supervisor varies according to managerial level of supervisor</p> <p>H10. The use of bases of power by supervisor varies according to managerial level of subordinate</p> <p>H11. The use of bases of power by supervisor varies as function of interaction between managerial level of supervisor and managerial level of subordinate</p> <p>5. To examine the main and interaction effects of bases of power on outcome variables.</p>		<p>Simple Main Effects</p> <p>2. Legitimate power of reciprocity</p> <p>3 Coercive power</p> <p>4 Credibility basis of power</p> <p>1. Reward Power</p> <p>2. Legitimate power of reciprocity</p> <p>Simple Main Effects</p> <p>3. Coercive Power</p> <p>Simple Main Effects</p> <p>4. Credibility Power</p>	<p>A (Ownership) at b1 (M) (<math>F(1,424)=4.71, p&lt;.01</math>) PRM&gt;PUM</p> <p>2 NS</p> <p>3 Main effect of NO (<math>F(1,424)=5.56, p&lt;.019</math>) M&gt;S</p> <p>4 NS</p> <p>1. NS</p> <p>2 Significant Interaction (Mlsup*Msub) (<math>F(1,424)=5.41, p&lt;.05</math>)</p> <p>A (Mlsup) at b2 (MID sub) (<math>F(1,424)=4.05, p&lt;.05</math>) MID sup&gt;TP Sup</p> <p>2. Significant Interaction (Mlsup*Msub) (<math>F(1,424)=8.49, p&lt;.01</math>)</p> <p>1) A (Mlsup) at b2 (MID sub) (<math>F(1,424)=9.71, p&lt;.01</math>) MID Sup&gt;TP Sup</p> <p>2) B (Msub) at a2 (TP Sup) (<math>F(1,424)=4.75, p&lt;.05</math>) LO Sub&gt; MID Sub</p> <p>4 NS</p>
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<p>H12. Bases of power used by the supervisor influences the compliance with subordinates' supervisor</p>	<p>Rahim (1988) and Developed</p>	<p>1. MMRA for Compliance</p>	<p>1 Significant main effects RW (<math>\beta = .18</math>), CR (<math>\beta = .25</math>)  Significant interaction REC*CO (<math>\beta = -.18</math>)</p>
<p>H13. Basis of power used by the supervisor influences the identification with subordinates' supervisor</p>	<p>Developed</p>	<p>2. MMRA for Identification</p>	<p>2 Significant main effects RW (<math>\beta = .20</math>), CO (<math>\beta = -.17</math>), CR (<math>\beta = .36</math>)</p>
<p>H14. Basis of power used by the supervisor influences the internalisation with subordinates' supervisor.</p>	<p>Developed</p>	<p>3. MMRA for Internalisation</p>	<p>3 Significant main effects RW (<math>\beta = .23</math>), CO (<math>\beta = -.16</math>), CR (<math>\beta = .22</math>)</p>
<p>H15. Basis of power used by the supervisor influences the satisfaction with subordinates' supervisor.</p>	<p>Developed</p>	<p>4. MMRA for Satisfaction</p>	<p>4 Significant main effects RW (<math>\beta = .17</math>), CR (<math>\beta = .31</math>)</p>
<p>H16. Basis of power used by the supervisor influences the subordinates' satisfaction with work.</p>	<p>Developed</p>	<p>5. MMRA for Performance</p>	<p>Significant main effects CR (<math>\beta = .20</math>)</p>
<p>H17. Basis of power used by the supervisor influences the subordinates' performance.</p>	<p>Developed</p>	<p>1. MMRA for Compliance  2. MMRA for Identification  3. MMRA for Internalisation</p>	<p>NS  RW*PC (<math>\beta = .89</math>), RC*PC (<math>\beta = -.64</math>) CO*PT (<math>\beta = .35</math>), CO*PC (<math>\beta = -.55</math>)  RW*PC (<math>\beta = 1.59</math>), RW*AF (<math>\beta = -.69</math>) CO*PC (<math>\beta = -.63</math>)</p>
<p>6. To examine the moderating effects of contextual variables on the relationship between bases of power and outcome variables (Exploratory Issue)</p>			

		4. MMRA for Satisfaction 5. MMRA for Performance	NS RC*PC ( $\beta=2.00$ ), CO*PT ( $\beta=1.00$ )
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Note: RW = Reward power; REC = Legitimate power of reciprocity; CO = Coercive power; CR = Credibility power; SDs= Standarddeviations; MMRA = moderated Multiple Regression Analysis; QI = Quality of interaction; PC = Perceived contribution; DC = Degree of control; AF = Affect; PT = Participative limiate; ANOVA = Analysis of variance; OO = Ownership of organisation; NO = Nature of organisation; NS = not significant; PRM = Private manufacturing organisation; PUM = Public manufacturing organisation; S = Service organisation; M = Manufacturing organisation; MID sup = Middle level supervisor; TP sup = top level supervisor; ML = Managerial level of supervisor; Sup= Supervisor; Sub = subordinate; LO sub = Lower level subordinate; MID sub = Middle level subordinate.

#### COMMENTS

1. In Indian organisations supervisors use mainly four bases of power mainly reward, legitimate power of reciprocity, coercive and credibility power.
2. The constellation of personal and impersonal forms of reward and coercive power suggest that respondents did not distinguish personal and impersonal forms of reward and coercive power.
3. Mean scores indicate that credibility power is most widely used and coercive power is least used by the supervisor in order to get compliance from subordinates.
4. Quality of interaction is significant predictor of bases of power as well as the major significant moderator for the relationship between bases of power and outcome variables (consequences).
5. Credibility power is the most desirable basis of power as it is positively related to all outcome variables.
6. Ownership does not independently affect the use of bases of power.
7. Managerial level of supervisor and managerial level of subordinate have combined effect on the use of bases of power.

8. Contextual variables moderate relationships between bases of power and subordinates' identification, internalisation and performance but not for subordinates' compliance and satisfaction with supervisor.
9. The effectiveness of credibility power does not depend on any contextual variables and it use also does not vary according to organisation type and managerial level.
10. In general, the majority of the hypothesis related to the objectives were supported by the findings of the study

**Table 4.2 Summary of Results (Experimental Study)**

Objectives	Overview of Design, subjects, Experimental Manipulation	Statistical analysis	Results
<p>1. To examine the effect of bases of power on outcome variables.</p> <p>H1. Basis of power used by supervisor influences the subordinates' compliance with supervisor.</p>	<p>2 (sex of supervisor: Male/Female)* 2 (sex of subject: Male/Female)* 12 (basis of Power)</p> <p>Subjects = 93 Male = 64 Female = 29</p> <p>Through 12 hypothetical Scenarios</p>	<p>1. MANOVA for Compliance</p> <p>Simple main effects</p>	<p>Significant Main Effect BP (F(11,979)=8.59,<math>p&lt;.01</math>)</p> <p>Significant Interaction BP*Sex Sub (F(11,979)=2.79,<math>p&lt;.01</math>) C (BP) at b1 (M Sub) (F(11,979)=2.14,<math>p&lt;.05</math>) C (BP) at b2 (F Sub) (F(11,979)=9.22, <math>p&lt;.01</math>)</p> <p>Maximum Compliance RES, PCP Minimum Compliance FL, EQU</p>

<p>H2. Basis of power used by supervisor influences the importance/Need of surveillance.</p>		<p>2 MANOVA for Surveillance</p> <p>Simple Main effects</p> <p>Mean Comparison</p>	<p>Significant Main effect BP (F(11,979)=12.96,p&lt;.01)</p> <p>Significant Interaction effect BP * Sex Sub (F(11,979)=2.24,p&lt;.05)</p> <p>C (BP) at b1 (M Sub) (F(11,979)=5.19,p&lt;.01) C (BP) at b2 (F Sub)) (F(11,979)=9.98,p&lt;.01)</p> <p>Maximum Surveillance FL, EQU Minimum Surveillance IP, RES</p>
<p>H3. Basis of power used by supervisor influences the subordinates' identification with supervisor.</p>		<p>3. MANOVA for Identification</p> <p>Simple main effects</p> <p>Mean Comparison</p>	<p>Significant main effects BP (F(11,979)=49.52,p&lt;.01)</p> <p>Significant Interaction effect BP*Sex Sub (F(11,979)=3.08,p&lt;.01)</p> <p>C (BP) at b1 (M Sub) (F(11,979)=21.83,p&lt;.01) C (BP) at b2 (F Sub) (F(11,979)=30.29,p&lt;.01)</p> <p>Maximum Identification IP, EP Minimum Identification PCP, ICP</p>
<p>H4. Basis of power used by supervisor influences the subordinates' internalisation with supervisor.</p>		<p>4. MANOVA for Internalisation</p> <p>Simple main effects</p> <p>Mean Comparison</p>	<p>Significant main effects BP (F(11,979)=26.08,p&lt;.01)</p> <p>Significant Interaction BP * Sex Sub (F(11,979)=2.51,p&lt;.01)</p> <p>C (BP) at b1 (M Sub) (F(11,979)=8.61,p&lt;.01) C (BP) at b2 (F Sub) (F(11,979)=19.89,p&lt;.01)</p> <p>Maximum Internalisation IP, EP Minimum Internalisation FL, CP</p>

<p>H5. Basis of power used by supervisor influences the subordinates' liking with supervisor.</p> <p>2. To examine the effect of interaction between bases of power, sex of supervisor and sex of subordinate on outcome variables. (Exploratory issue)</p>		<p>MANOVA for Liking</p> <p>Simple main effects</p> <p>Simple main effects</p> <p>Mean Comparison</p>	<p>Significant main effect BP (F(11,979)=53.42, p&lt;.01)</p> <p>Significant Interaction effects BP * Sex Sup (F(11,979)=2.42, p&lt;.01)</p> <p>C (BP) at a1 (M Sup) (F(11,979)=35.89, p&lt;.01) C (BP) at a2 (F Sup) (F(11,979)=20.05, p&lt;.01) BP * Sex Sub (F(11,979)=2.86, p&lt;.01)</p> <p>C (BP) at b1 (M Sub) (F(11,979)=26.08, p&lt;.01) C (BP) at b2 (F Sub) (F(11,979)=26.08, p&lt;.01)</p> <p>Maximum Liking IP, REF Minimum Liking PCP, ICP</p>
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Note: BP = Bases of power; IP = Information power; FP = Expert Power; PCP = Personal coercive power; ICP = Personal coercive power; REF = Referent power; REFS = Legitimate power of responsibility; FL = Formal Legitimacy; F:QU = Legitimate power of equity.

**COMMENTS:**

1. Findings do not support the reclassification of reward and coercive power into personal and impersonal forms suggested in expanded power/ interaction model of interpersonal influence (Raven, 1988, 1992).
2. Findings support the reclassification of legitimate power into four forms in expanded power/ interaction model of interpersonal influence (Raven, 1988, 1992).
3. Most desirable bases of power are information and expert power.
4. Least desirable bases of power are coercive and formal legitimacy.

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## THE RESEARCH SITE

The description of various organisations is based on the responses obtained from the respective personnel department to the following questionnaire.

### ORGANIZATIONAL PERFORMA

- (1) Brief History of its establishment:
- (2) Ownership: (Central Government/State Government/Semi Government/Private/Others)
- (3) Nature: (Service/Manufacturing/Others)
- (4) Established in (year):
- (5) Is it affiliated with any foreign company: (Yes/No)  
(If Yes then give the name of that company)
- (6) Number of divisions, their name and location:
- (7) Name and position of the head of the present organisation:
- (8) Hierarchy in the present organisation:
- (9) Approximate size of staff of present organisation (no. of employees):
  - No. of employees holding executive position:
  - No. of employees holding non executive position:
- (10) Number of sections in present organisation
  - Name of the sections:
- (11) Number of Unions:
- (12) Distribution channels for the product:
- (13) Brief information about the following points, related with organisation, during ten years:
  - (a) Financial position:
  - (b) Benefits given to employees:
  - (c) Public/community welfare activity undertaken, if any:
  - (d) Lockouts/strikes:
  - (e) Rate of production:

### Private Manufacturing Organisations

#### Organisation A

This is a private organisation established in the early 1980's in collaboration with an Italian Company. This company is India's second scooter manufacturer. Its registered work office is located in a major industrial city of Uttar Pradesh with five main marketing and controlling offices spread over

major cities of India. Today it is having about 500 authorised representatives and distributors across the country. Its has around 5000 employees including 500 executives on its payroll. .

This organisation is headed by a Managing Director with the following downward hierarchy: Vice President, GM's of various departments, Deputy GM's of various departments, Senior Manager, Managers, Senior Engineers and Engineers. The company has employed professionally qualified personnel in various fields including finance, marketing and production. This organisation has gained tremendous growth since 92-93. Prior to this it was incurring heavy losses due to strikes and lockout. Presently it is making a profit of Rs 3.2 crores per month and is planning to enhance the production from 2,00,000 to 5,00,000 scooters per year. This is possible because of totally mechanised process and highly qualified personnel with high quality infrastructure.

The organisation provides many facilities and benefits to its employees like canteen, medical, travelling allowance etc. It is open structured organisation and anyone irrespective of the cadre to which he belongs can approach the management in case of any problem or suggestion. Data were collected from the personnel, finance, production and marketing departments. Managers from the middle level and junior level constituted the sample from this organisation.

### **Organisation H**

This organisation was established in 1969. In 1993 it was taken over by another company. Mainly it has two divisions, one is fertiliser and another one is agro division. Data were collected from the fertiliser division.

The organisation is headed by a Vice President with the following downward hierarchy Senior General Managers (operations), Senior GM (engg.) Deputy GM (finance) Deputy GM (production), Senior Asst. Managers and Officers.

The financial profile shows that the organisation is running into profit. During 1987-88 it was in loss but after that it is continually earning profit. Many perks and fringe benefits other than medical, housing loans and vehicle are given to the employees. The pay package is better than to other organisations.

The organisation has a modernised plant and well-equipped laboratories with separate R & D Department. Quality control, in this organisation, is considered a very important function.

Presently the organisation employs about 1640 employees including 60 executives. The employees have formed two unions in fertiliser division alone. The unions co-operate in daily functioning and the general picture of the organisation reveals a highly professional environment.

Data were collected in all the departments of this organisation. Executives from the junior level constituted the sample in the present study.

### **Organisation M**

This was established in 1961 by one of the biggest business houses in the country. Presently the organisation has thirteen divisions in major cities manufacturing nylon filament yarn, tyre cord, polyester filament yarn, polyester staple fibre, acrylic fibre, synthetic fibre machinery, grey and white cement, cops and other equipment. The divisions are located in different parts of the country.

Data for the present study were collected from the corporate office of one division involved in manufacturing grey and white cement. The division is headed by General Manager with the following downward hierarchy: Senior Managers, Deputy Managers, Assistant Managers, Officers, trainers and supervisors.

The financial position of the present division is very sound. It has a history of continuous profit making. In 1993-94 it showed the highest ever production achieved in the last ten years. It enjoys leadership position in the market due to consistent high quality of the product.

### **Organisation N**

This organisation is a sister concern of organisation M. This is country's first synthetic fibre plant. The organisation is headed by Managing Director, who is also the owner with the following downward hierarchy: Whole Time Director, General Managers, Managers, Assistant Managers (production and marketing), management trainees and supervisors.

In general, the organisation has a history of earning heavy profits. However due to coming up of many textile industries with latest infrastructure this division is not earning much profit as compared to previous years.

Data were collected in marketing, finance and accounts departments of the division. Managers and assistant managers from middle and junior level constituted the sample of present study.



## **Organisation R**

This organisation was established in 1971 in a major industrial city of Uttar Pradesh. It is dedicated to design, development and manufacturing of induction heating equipment and honing machine. It is affiliated to a German company and this organisation has India's first manufacturing plant for Induction heating equipment. It has a well-equipped, highly sophisticated R & D centre.

The organisation is headed by Managing Director with the following downward hierarchy: Joint Managing Director, Chief GM, Sr. GM, Dy GM, Managers and Dy Managers. The Dy Manager (servicing) and Managers report to Chief General Manager. GM's of various departments looks after the production while the administration is headed by Managers and Dy. Managers.

The organisation has a healthy financial position and is earning profit continuously for 10 years and the turnover have increased manifold and profit quadruped during last ten years.

There have been no lockouts and strikes. Presently the organisation employs around 250 employees including the managerial staff. The organisation gives many benefits to its employees like dress and shoes, annual gift and vehicle loan etc.

Data were collected from various departments including production. Managers and executives from the middle level and junior level constituted the sample for this study.

Note: - Detailed information about Organisation D that is also a private manufacturing organisation could not be obtained.

## **Public Manufacturing Organisations**

### **Organisation C**

This organisation is under the Ministry of Civil Supply Government of India. It is involved in manufacturing edible oil. There are eight divisions of this organisation in different parts of India. It was established in 1937. The registered corporate office is situated in India.

Managing Director heads this company. The Deputy GM (administration) and the Deputy GM (factory) report to the Managing Director. The division employs about 358 employees including 30 executives and managers.

Financially, the organisation has been sick unit for the past 7 years. The reasons for its poor condition are use of outdated technology and tough competition from other brands of edible oil which have become more popular. Actual rate of production 20 tonne per day while it should be 125 tun/day.

During the last ten years there have been no lockouts and strikes. This company provides accommodation, travelling allowance, health facilities etc. to its employees.

Managers and Officers from the middle and junior level from the various departments constituted the sample in the present study.

### **Organisation E**

A Central Government Organisation, Organisation E was established in 1974. It is involved in the production of fertiliser. It has five divisions in different parts of the country. The data were collected from the corporate office, situated in the capital of the country.

The organisation is headed by Managing Director with the following downward hierarchy: General Manager, Deputy General Manager, Managers of different departments (finance, personnel and administration, technical, project, materials, company secretary, vigilance, HRD, public relations and computer), Deputy Managers, Asstt. Managers. Officers, Engineers, Asstt. Officer, Asstt. Engineers. The division employs about 6852 employees including 1772 executives and managers.

The organisation has been making profit almost since its establishment. The aggregate performance of this organisation has leaped over the 100% utilisation level during last year with significant growth in profitability. This organisation is conscious and equally open for the adoption of new technologies. It has emerged as the largest producer of nitrogenous fertilisers in the country. The organisation gives a high priority to industrial safety and ecology and pollution control.

Industrial relations in the organisation are cordial and there are no lockouts and strikes. Benefits given to employees in the organisation are canteen allowance, production incentives, gift award scheme, incentive on acquiring higher qualifications, incentive scheme for promotion of small family norms etc. Public community welfare activities taken up by this organisation are social development programme, social welfare fund, and assistance to charities and assistance to education, sports and ladies club activities.

This organisation has established a well-developed and efficient marketing network. Apart from the institutional agencies of the concerned state, private dealers are also appointed for wide spread distribution of fertilisers.

The respondents from this organisation were Asstt Managers and Engineers from the lower level.

### **Organisation G**

This organisation is a merger of two organisations. One organisation was established in 1940 as a private limited company at Bangalore. This was later taken over by the Government of India, in 1942. Second organisation was established in 1962 by Government of India in collaboration with USSR. The government subsequently decided to amalgamate the two companies for efficient planning and co-ordination in the air craft industry. On 1st October, 1964 the present organisation was formed by the merger of both organisation. This organisation has 12 production divisions and they are spread over seven locations across the country. Data were collected from one division situated in Uttar Pradesh. This division is affiliated with one German company.

The organisation is headed by General Manager with following downward hierarchy: Assistant General Manager, Deputy General Manager, Chief Manager, Managers, Deputy Manager. This division employs about 2800 employees including 413 executives. There are different sections in organisation; production, assembly, quality control, finance, administration and material management.

Regarding financial position, basically this organisation is not profit-oriented organisation. The basic objective of the organisation is to achieve self-reliance in the design, development, and production of aircraft and aeronautical equipment as per the country's needs, with special emphasis on the military requirements.

The organisation gives all the benefits as housing, medical, canteen, transport including all the facilities according to the factory act. The environment in this organisation is cordial; therefore there has been no strikes and lockouts in the organisation.

### **Organisation I**

The organisation has a long history. A Britisher started it in the 1890s. With mergers of a period of time, the company came to become a part of a bigger corporate house. For the first time, in 1937, three Indians appeared on the Board of Directors. In 1955, the ownership was transferred to an Indian Industrialist. In 1962, another business family took over the company. In 1970, part of the big corporation was taken over by the government. In 1981, the woollen mills too became a public

sector organisation. The organisation manufactures woollen goods like blankets, suit lengths, shawls etc.

This company is one of the four subsidiaries of a larger corporation. The organisation is headed by a General Manager with the following downward hierarchy: Senior Managers (accounts, sales), Managers, Assistant Managers, Chief Engineers (CEs), Assistant CEs, Senior Engineers, Plant Engineers, and Supervisors. At present the company employs around, 3000 employees, of which around 225 constitute the executive levels.

Financially it is a sick organisation. The working conditions in plant are not very good and the machinery is obsolete.

The managers from middle and junior levels of various departments constituted the sample for present study.

### **Organisation J**

This organisation is basically in production of leather specially shoes. The organisation employs around 1,500 employees including 150 executives. The organisation is headed by Chief Managing Director with the following downward hierarchy: Deputy General Manager of various departments, Managers, Asstt Managers and Senior Officers of various departments.

Financial position of the organisation is not good. It is going in continues loss. Till 1993 the production rate was 2000 pairs of shoes/per day. After that there is a significant drop in production.

The organisation gives various facilities to its employees as accommodation, medical facilities, children education, travelling allowance etc.

Data were collected from the employees belonging to middle level and junior level from Deputy General Manager to officer of administration, finance, marketing and sales departments.

### **Organisation L**

The historical background of the organisation may be traced in the report submitted by the WHO. The main recommendation of this committee was to establish an all India centre for manufacture and supply of prosthetic, orthotic, and orthopaedic workshops for fitting, training, facilities and necessary research in the field to suit local conditions. In response to this recommendation the present organisation was established.

There is only one production unit, situated in one city of Uttar Pradesh and 12 sales and marketing divisions in different cities of the country. The organisation employs around 546 employees including 41 executives and managers.

The major area of operation is in the development of Aids and Appliances suitable for the handicapped persons of our country. Here artificial limbs are fitted to disabled persons and other rehabilitation aids are provided.

The organisation is headed by Chief Managing Director with the following downward hierarchy: General Manager (Production), General Manager (marketing) Senior Manager, Manager and Deputy Manager of Various departments.

Financial position of the organisation is not good. It is going in continuous loss for the last 10 years with the total loss cumulating to Rs 30 crores. But the aim of this organisation is not profit oriented.

The organisation gives various facilities to its employees as subsidised canteen, free transport, transport subsidy, uniform, children education allowance, HRA and other statutory benefits. Before 1985, workers went on strikes two times for charted demands but after that there has been no strike or lockouts. As a whole the organisation is devoted to the cause of disabled and handicapped persons.

The data for present study were collected from senior managers, managers, Asstt. Managers and officers from middle level and junior level of various departments.

### **Organisation Q**

This organisation is a defence production organisation working under the ministry of Defence Production Government of India. It was established in the year 1941. It manufactures Parachute, clothing uniforms, and war items as Rubberised Float. It employs around 3000 employees including 21 executives. It has only one division.

General Manager heads the organisation with the following downward hierarchy: Additional GM, Deputy GM, Works Manager, Asstt Works Manager of various departments. As a defence unit, this organisation is not benefit oriented. Government of India provides the finance. The organisation gives many benefits to its employees as welfare fund, TB fund, death relief fund, statutory bonus and employment assistance on compassionate ground etc. There have been no strikes and lockouts since

its establishment. Public/community welfare activities undertaken by this organisation are women welfare, club activity sports and recreational activities.

Data for present study were collected from the managers and officers belonging to middle and lower management from various departments.

## **Private Service Organisations**

### **Organisation O**

This organisation is a private financing organisation established in 1986. Its objective is to cater to the need of leasing, hire purchase, bill discounting assets, financing etc. It completed 10 years of its operation successfully. It employs 50 employs.

The organisation is headed by Chairman. Under his is Vice Chairman with the following downward hierarchy: Manager (administration), Manager (finance), Manager (deposits), Deputy Secretary, Sr. Officers, Jr. Officers and Assistants.

The Company is continuously earning profit since its establishment. The profit ranges from 15% to 30% over the period of years.

Data for present study was collected from managers and Sr.Officers belonging to various departments.

### **Organisation F**

The organisation is a private bank established in 1975. There are eight branches and a head office of this bank. The organisation employs around 185 employs including 50 executives.

The organisation is headed by Secretary, followed by General Managers, Deputy G.M, Chief Manager, Manager, Assistant Manager and Officers.

The Financial position of the organisation is good. It is doing the business of in the range of Rs 24 crores. It gives many benefits to its employees like gratuity, L.T.C, leave encashment, medical reimbursement etc.

Data were collected from Chief Managers to officers belonging to middle and junior levels.

### **Organisation P**

This organisation is a private financing sector established in 1932. The objective of the organisation is to mobilise small savings and it is India's largest non-banking saving company.

There are six regional offices and many branches of the organisation in different cities of the country. The organisation employs around 4500 employees including 1000 executives.

Managing Director heads the organisation with the following downward hierarchy: Directors, Vice Chairman, Joint Managing Director, Deputy Managing Director, Chief executives, General Managers, Deputy General Managers, Regional Managers, Divisional Managers, Branch Managers and Managers.

Regarding the financial position, at present the organisation has total assets of Rs 4500 crores. It gives many benefits to its employees like bonus, outstation allowances, medical benefits etc.

Managers from the lower level constituted the sample for the present study.

## **Public Service Organisations**

### **Organisation B**

This organisation is the largest commercial bank in India with 33 overseas branches spread over different parts of the world. Prior to this it was three presidency banks of Bengal, Bombay and Madras, which were later amalgamated into the Imperial Bank of India. The present status is from 1955.

The organisation is headed by the Chairman with the following downward hierarchy: Managing Director, Deputy MD's, Joint Secretary, Chief GM's, GM's, Managers, Deputy Managers and Assistant Managers. The data was collected from the Regional office of a major industrial city of UP. It also has foreign banking division.

Financial position of the organisation is very sound. It has an unbroken record of profit making throughout its history of 188 years. Profit of 300 crores was earned during 1993-94. Though from time to time strikes by employees take place for better wages. The regional office covers about 1800 employees including 250 executives. Various heads of departments of middle and junior level participated in the study.

### **Organisation K**

This organisation is only one of its nature of business in India. Though prior to nationalisation there were over 300 companies which were amalgamated into this organisation in 1956.

This organisation has branches all over the country with central office at Bombay and also overseas offices in three countries.

The organisation is headed by the chairman with the following downward hierarchy: Managing Director, Executive Director Zonal managers, Divisional Managers, Additional Divisional Managers, Administrative officers, and supervisors.

Financial position of the company is very sound. It had a fund of Rs 60,000 crores at the end of the last financial year 1994-95. It also helps in financing various development projects of state and central governments.

Data were collected in Regional office of a major Industrial city of UP. Various executives of middle and junior level constituted the sample of this study.

### **Organisation S**

This organisation is a financing company established in 1954 as per State Financial Corporation Act 1951. The main objectives were to finance small-scale industries with minimum investment of Rs 3 crores in various projects but for last 2-3 years it has also financed projects upto worth Rs 10 crores.

The organisation is headed by Managing Director, General Manager, Deputy GM's, Assistant GM, Chief Manager, Senior Manager, Manager and Assistant Manager.

The organisation was under the State Government and because of various political pressures the loan amount was not recovered fully. But because of stringent actions on defaulters and better follow up the organisation is now on the verge of better financial position. At the time of data collection the company was earning profit. Presently the organisation employs 1098 employees including executives of various departments. There are twenty regional offices located in different cities of the Uttar Pradesh. The working atmosphere is cordial in general and there has been no strike or lock out for the last 10 years.

Chief managers to Assistant managers belonging to middle level and junior level from various departments constituted the sample of present study.



**Appendix B****Questionnaire 1****GETTING ONE'S WAY**

I am seeking your co-operation in connection with my doctoral dissertation project. The fundamental aim of this study is to understand how people try to get their way in organisations. Your frank and sincere replies will help us understand the dynamics of the above-mentioned process.

As with any other social science research, only general findings will be reported. Individual anonymity is completely guaranteed; no one other than the researcher will ever see any of your individual responses. **DO NOT WRITE YOUR NAME OR SIGN ANYWHERE ON THIS BOOKLET.**

Thank you very much for your co-operation!

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## SECTION I -- INFLUENCE

Often supervisors suggest new method or procedure of working to their subordinates. Sometimes subordinates resist the new procedure; while at other times they do exactly as they are asked to do.

Think of the last time when your supervisor suggested, requested, or commanded that you follow a different procedure or method of working, one which you would not otherwise be inclined to follow. Though initially reluctant, you did exactly what your supervisor asked to do (i.e., you complied with him/her). (Note: if you have not yet experienced such a situation, please try to imagine such an event.) Here are number of reasons why you would do what your supervisor requested. Read each of these reasons carefully and decide how likely it would be the reason why you would comply with your supervisor in such an instance. Indicate how likely it would be the reason by selecting the appropriate numbers (1 to 7) and write it to the left of the statement.

Extremely unlikely	1
Unlikely	2
Somewhat unlikely	3
Neither unlikely nor likely	4
Somewhat likely	5
likely	6
Extremely likely	7

### I WOULD DO AS MY SUPERVISOR REQUESTED BECAUSE

- (01PR) if I did so, then my supervisor would appreciate me more.
- (02PC) if I did NOT do so, then my supervisor would reject me personally.
- (03CP) my supervisor is a very influential person in the organisation and could determine how other people would behave toward me.
- (04EP) it was clear that my supervisor knew what was best, even if I did not understand
- (05RP) as a person I liked my supervisor very much.
- (06IP) my supervisor provided me sufficient information in support of the requested change.
- (07IC) if I did NOT do so, then my supervisor might give extra work to me as punishment.
- (08IR) if I did so, then my supervisor might do something that would be beneficial to me.
- (09CP) my supervisor's contacts in the organisation could affect my future.
- (10FL) a supervisor was entitled to tell a subordinate to change his/her working procedure.
- (11RC) my supervisor had given me favours in the past, and I felt that I should reciprocate in this way.
- (12RS) I realised that my supervisor really needed my help in doing the job this way.
- (13EQ) my supervisor suffered a lot in the past due to my non-compliance, so I compensated it by complying this time.

- (14PR) if I did so, then my supervisor would have greater positive feelings toward me.
- (15IR) if I did so, then my supervisor might recommend for me a pay raise.
- (16IP) my supervisor carefully explained why the changes were necessary.
- (17IC) if I did NOT do so, then my supervisor might demote or recommend me for demotion.
- (18PC) if I did NOT do so, then my supervisor would have negative feelings toward me.
- (19EP) my supervisor is a well-trained and experienced person, who knows better than I, what procedure to follow.
- (20EQ) my non-compliance created problems for my supervisor in the past, so I tried to cover this time.
- (21CP) my supervisor's relation with others outside of the organisation has important implications for me.
- (22EQ) I always did the way I wanted in the past which troubled my supervisor, so I tried to recover this time.
- (23FL) my supervisor was authorised to give such orders and I was obliged to obey him/her.
- (24RS) I realised that it was very difficult for my supervisor to complete the job without my doing as he/she asked.
- (25PR) if I did so, then my supervisor would like me better.
- (26PC) if I did NOT do so, then my supervisor would disapprove of me.
- (27IP) once he/she pointed it out, I could see recommended procedure was really better.
- (28IC) if I did NOT do so, then my supervisor might recommend me for transfer to a pleasant place.
- (29RP) my supervisor was a person with whom I identified and it was important to me to approach things the way he/she did.
- (30IR) if I did so, then my supervisor might recommend me for promotion.
- (31CP) how I am dealt with by others could be very much affected by my supervisor.
- (32EP) my supervisor had special knowledge of the specific issue relating to my work procedure.
- (33FL) my supervisor had the right to direct my activities.
- (34RC) my supervisor gave me favourable considerations in the past, so I felt obliged to do this for him now.
- (35RS) it was my duty to help my supervisor because it seemed that he/she really depended on me to do this job.
- (36EQ) my non-compliance caused difficulties to my supervisor, so I felt obliged to comply this time.
- (37IP) I could then understand a clear and logical reason for the change.

- (38CP) my supervisor has connections with influential persons outside the organisation.
- (39RC) my supervisor had done some good things for me in the past, so I returned that favour this time.
- (40PC) if I did NOT do so, then my supervisor would be angry with me.
- (41EP) my supervisor was more competent than I in judging the method of doing this particular job.
- (42RP) my supervisor and I had lot in common and it was important to me to see things as he/she saw them.
- (43IP) my supervisor had access to information that was valuable for me.
- (44IC) if I did NOT do so, then my supervisor might block my advancement (e.g., promotion).
- (45PR) if I did so, then my supervisor would have more positive regard toward me.
- (46IR) if I did so, then my supervisor could recommend me for some positive recognition or award.
- (47CP) my supervisor knows how to please the higher ups in the organisation, and they would be important to me.
- (48FL) my supervisor had the right to expect that his/her suggestions would be carried out.
- (49RC) I could well remember how helpful he/she was in the past, so I felt obliged to him/her.
- (50RS) I felt that my supervisor would have difficulty carrying out his/her assignments without my helping him/her out in this way.
- (51RP) my supervisor had my personal respect and it gave me satisfaction to see and doing things as he/she did.
- (52EP) my supervisor probably knew the best way to do the job.
- (53IP) once it was pointed out, I could see why the change was necessary.
- (54RP) I respected my supervisor and thought highly of him/her and did not wish to disagree.
- (55FL) after all, he/she was my supervisor.
- (56IC) my supervisor could make things unpleasant for me.
- (57RC) for past considerations I had received, I felt obliged to comply.
- (58PR) it made me feel personally accepted when I did as my supervisor asked.
- (59RS) I realised that a supervisor needs assistance and co-operation from those working with him/her.
- (60PR) I liked my supervisor and his/her approval was important to me.
- (61EQ) by doing so, I could make up for some problems I might have caused in the past.
- (62PC) it would have been disturbing to know that my supervisor disapproved of me.

- (63IP) my supervisor gave me good reasons for changing how I did the job.
- (64IC) my supervisor could make it more difficult for me to get a pay rise.
- (65RP) I saw my supervisor as someone I could identify with.
- (66IR) my supervisor's actions could help me get a promotion.
- (67FL) my supervisor had the right to request that I did my work in a particular way.
- (68RS) unless I did so his/her job would be more difficult.
- (69PC) my supervisor may have been cold and distant if I did not do as requested.
- (70RC) my supervisor had previously done some good things that I had requested.
- (71EP) my supervisor probably knew more about the job than I did.
- (72EQ) complying helped make up for things I had not done so well previously.
- (73PR) my supervisor made me feel more valued when I did as requested.
- (74RP) I looked up to my supervisor and generally modelled my work accordingly.
- (75FL) as a subordinate, I had an obligation to do as my supervisor said.
- (76RC) my supervisor had let me have my way earlier so I felt obliged to comply now.
- (77IP) I could then understand why the recommended change was for the better.
- (78EP) my supervisor had probably more technical knowledge about this than I did.
- (79IR) my supervisor could help me receive special benefits.
- (80IC) my supervisor could make it more difficult for me to get a promotion.
- (81RS) I understood that my supervisor really needed my help on this.
- (82EQ) I had made some mistakes and therefore felt that I owed this to him/her.
- (83PC) just knowing that I was on the bad side of my supervisor would have upset me.
- (84IR) a good evaluation from my supervisor could lead to an increase in my pay.

## **SECTION II -- BEHAVIOR**

### **Set-1 -- (LB)**

This scale is meant to find out the different ways a manager acts, feels, or prefers. The following statements are about the behaviour of your immediate superior. Please read each of them carefully and decide how frequently it is true of him/her. Select the number of your choice, as given below, and put it on the small line to the left of the statement.

Never	1
Almost never	2
Seldom	3
Sometimes	4
Usually	5
Almost always	6
Always	7

- (01P) he/she often consults his/her subordinates.
- (02N) He/she takes personal interest in the promotion of those subordinates who work hard.
- (03F) He/she keeps important information to himself/herself.
- (04N) He/she gladly guides and directs those subordinates who work hard.
- (05P) He/she lets his/her subordinates solve a problem jointly.
- (06F) He/she behaves as if power and prestige are necessary for getting compliance from subordinates.
- (07P) He/she is in the habit of mixing freely with his/her subordinates.
- (08N) He/she encourages his/her subordinates to assume greater responsibility on the job, as they become more experienced.
- (09P) He/she treats his/her subordinates as equal.
- (10P) He/she goes by joint decision of his/her group.
- (11F) He/she thinks that not all employees are capable of being an officer.
- (12F) He/she always seems to be confident of being right in making decisions.
- (13N) He/she is kind toward only those subordinates who work sincerely.
- (14N) He/she openly favours those who work hard.
- (15N) He/she appreciates those subordinates who want to perform better.
- (16P) He/she seems to be genuinely concerned about the feelings of his/her subordinates.
- (17F) He/she keeps an eye on what his/her subordinates do.
- (18P) He/she allows free and frank discussions whenever such situations arise.
- (19N) He/she is very affectionate to hardworking subordinates.
- (20P) He/she often takes tea/coffee with his /her subordinates.
- (21N) He/she goes out of his/her way to help those subordinates who maintain high standard of performance.
- (22N) He/she makes it clear to his/her subordinates that personal loyalty is an important virtue.

- (23N) He/she openly praises those subordinates who are punctual.
- (24F) He/she does not tolerate any interference from his/her subordinates.
- (25F) He/she believes that if he/she is not alert all the time, there are many people who may pull him/her down.
- (26P) He/she makes his/her subordinates feel free even to disagree with him/her.
- (27N) He/she feels good when he/she finds his/her subordinates eager to learn.
- (28F) He/she demands his/her subordinates to do what he/she wants.
- (29P) He/she is very informal with his/her subordinates.
- (30F) He/she has strong likes and dislikes for his/her subordinates.

**Set-2 -- (EOI)**

The following statements indicate your immediate superior's interaction with you. Please read each statement carefully and decide how frequently it is true for your relationship with him/her. Select the number of your choice (following the previous scale), and put it on the small line to the left of the statement.

- (01) He/she is usually successful at obtaining recognition for my success.
- (02) He/she controls my behaviour.
- (03) He/she is usually successful in dealing with me.
- (04) He/she easily gets his/her ideas across to me.
- (05) His/her suggestions are generally accepted by me.
- (06) He/she usually influences my decision when a problem comes up.
- (07) In general he/she has say or influence on what goes on in my situation.

**SECTION III -- EXCHANGE**

**Set-1 -- (OI)**

In organisations, an individual works with different people. Working with others is a must to achieve the organisational goal(s). In this process, the individual may interact differently with different people and with one at a time. We want you to evaluate your interaction with your immediate supervisor in terms of the following questions. Please read each question carefully and judge the degree to which it is true of the interaction between the two of you. Select the number of your choice (given below), and put it to the left of the statement in the space provided.

Not at all	1
Very little	2
A little	3
Some what	4
Quite a bit	5
A good deal	6
Very much	7

- (01L) How much would you defend each other's actions to a superior even without complete knowledge of the issue in question?
- (02A) How much liking do you have for each other?
- (03PC) How much responsibility does he/she take for the jobs that are to be done jointly by the two of you?
- (04A) How much affection do you have for each other?
- (05A) How much would you like to keep in touch with each other even if you are not working in the same organisation?
- (06L) How much would you protect each other if one of you is being criticised?
- (07PC) How much is his/her contribution to the quantity of solution on the jobs that are to be done together by the two of you?
- (08L) How much would you defend each other in the organisation if one of you made an honest mistake?
- (09A) How much importance do you attach to each other's advice on personal matters?
- (10PC) How efficient is his/her contribution to the jobs for which the two of you work together?
- (11A) How much do you help each other in personal matters?
- (12PC) How useful is his/her effort on the jobs that are to be done together by the two of you?
- (13L) How much would you come to guard each other if one of you were "attacked" by others?
- (14PC) How much time does he/she spend on the jobs that are to be done together by the two of you?
- (15A) How much do you interact with each other off the job?
- (16PC) How much initiative does he/she take in solving the problems that are to be done together by the two of you?
- (17L) How much loyal are you to each other?
- (18PC) How much is his/her contribution to the quality of solutions on the jobs that are to be done together by the two of you?

**Set-2 -- (PD)**

The following statements indicate your say or influence on your immediate supervisor, and vice versa. Please read each statement carefully and indicate the degree of influence for yourself and for your supervisor. Select the number of your choice (following the previous scale), and put it on the small line to the left of the statement.



- (01) how much say or influence do you have on what goes on in your work area?
- (02) How much say or influence does your supervisor have on what goes on in your work area?
- (03) How much say or influence should you have on what goes on in your work area?
- (04) How much say or influence should your supervisor have on what goes on in your work area?
- (05) How much do you change the opinion of your supervisor on what goes on in your work area?
- (06) How much does your supervisor change your opinion on what goes on in your work area?

## SECTION IV -- OUTCOME

### Set -- 1

The following set of statements represent possible feelings that individuals might have for their work and for the immediate supervisor under whom they work. With respect to your own feelings for the work and the supervisor under whom you are presently working, please indicate the degree of your agreement or disagreement with each statement. Select the number of your choice (as given below) and put it on the small line to the left of the statement.

Strongly disagree	.1
Moderately disagree	2
Slightly disagree	3
Neither agree nor disagree	4
Slightly agree	5
Moderately agree	6
Strongly agree	7

- (01) I like my supervisor very much.
- (02) I feel comfortable working under my present supervisor.
- (03) If the values of my supervisor were different I would not be as attached to him/her.
- (04) I enjoy my work more than my leisure time.
- (05) The supervision I receive encourages me to put in extra effort.
- (06) I am proud to tell others that I am working under this supervisor.
- (07) I feel confident of my supervisor's support when I make a decision.
- (08) I am happy with my present supervisor.
- (09) I definitely dislike my work.
- (10) The way I am supervised makes me want to stay in this job.

- (11) My supervisor is fair in his/her dealing with me.
- (12) I find real enjoyment in my work.
- (13) What this supervisor stands for is important for me.
- (14) I get along well with my supervisor.
- (15) The way I am supervised makes me think seriously about quitting or asking for transfer.
- (16) Most days I am enthusiastic about my work.
- (17) I talk up the supervisor to my friends as a great person to work with.
- (18) I feel that I am happier in my work than other people.
- (19) Each day of work seems like it will never end.
- (20) Since joining this supervisor, my personal values and those of his/her have become more similar.
- (21) All things considered, I am pleased with the way I am supervised.

### Set -- 2

The following set of statements represents whether individuals comply with what their supervisor wants or says. Please indicate the degree of your compliance with the supervisor under whom you are working at present. Select the number of your choice (following the previous scale), and put it on the small line to the left of the statement.

- (1) I do not follow the suggestions of my supervisor.
- (2) I like to do what my supervisor suggests.
- (3) I comply with the instructions of my supervisor.
- (4) I comply with the directives of my supervisor.
- (5) I prefer not to comply with the directives of my supervisor.
- (6) I want to work according to my supervisor's wishes.
- (7) I prefer to work as my supervisor asks me to do.
- (8) I do work according to my supervisor's wishes.

### **SECTION V -- SOCIAL DESIRABILITY**

Listed below are a number of statements concerning personal attitudes and traits. Read each of them carefully and indicate whether it is true or false. Select the number of your choice and put it on the small line to the left of each statement.

True	1
False	2

- (01) Before voting I thoroughly investigate the qualifications of all the candidates.
- (02) I never hesitate to go out of my way to help someone in trouble.
- (03) It is sometimes hard for me to go on with my work if I am not encouraged.
- (04) I have never intensely disliked anyone.
- (05) On occasion I have had doubts about my ability to succeed in life.
- (06) I sometimes feel resentful when I don't get my way.
- (07) I am always careful about my manner of dress.
- (08) My table manners at home are as good as when I eat in a restaurant.
- (09) If I could get into a movie without paying for it and be sure I was not seen I would probably do it.
- (10) On a few occasions, I have given up doing something because I thought too little of my ability.
- (11) I like to gossip at times.
- (12) There have been times when I felt like rebelling against people in authority even though I knew they were right.
- (13) No matter who I'm talking to, I'm always a good listener.
- (14) I can remember "playing sick" to get out of something.
- (15) There have been occasions when I took advantage of someone.
- (16) I'm always willing to admit it when I make a mistake.
- (17) I always try to practice what I preach.

#### SECTION VI -- PERSONAL DATA

- (01) Your age (in years) \_\_\_\_\_
- (02) Educational qualifications \_\_\_\_\_
- (03) Your job title or designation \_\_\_\_\_
- (04) Designation of your immediate supervisor \_\_\_\_\_
- (05) When did you join your first job? \_\_\_\_\_
- (06) How many times have you changed the job? \_\_\_\_\_
- (07) How many promotions have you received in present organisation? \_\_\_\_\_

(08) For how many years have you been with your present organisation?

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(09) For how many years have you been working in your present position?

---

(10) For how many years have you been with You're present immediate supervisor?

---

(11) How does your present job fit into your organisation's structure? (Circle one)

- 1 Top management
- 2 Middle management
- 3 Lower management
- 4 Others (please specify)

---

(12) Are you a technical or non-technical worker?

---

(13) Total number of managerial levels in your organisation.

---

(14) All in all how much success have you achieved in your career? (Circle one)

- 7 very much
- 6 a good deal
- 5 quite a bit
- 4 some what
- 3 a little
- 2 very little
- 1 not at all

(15) What is your earned monthly income? (Including salary, allowances, etc.)? (Circle one.)

- 1 Under Rs.5, 000/-
- 2 Between 5,001 and 6,000/-
- 3 Between 6,001 and 7,000/-
- 4 Between 7,001 and 8,000/-
- 5 Between 8,001 and 9,000/-
- 6 Between 9,001 and 10,000/-
- 7 Between 10,001 and 11,000/-
- 8 Between 11,001 and 12,000/-
- 9 Over Rs.12, 0001/-

THANK YOU

## Questionnaire 2

### SECTION I -- INFLUENCE

Often supervisors suggest new method or procedure of working to their subordinates. Sometimes subordinates resist to the new procedure and other times they do exactly as they are asked to do.

Think of the last time when you suggested, requested or commanded your subordinate \_\_\_\_\_ that he/she follow a different procedure or method of working, one which he/she would not otherwise be inclined to follow. Though initially reluctant, he/she did exactly what you asked to do (i.e., he/she complied with you). (Note: if you have not yet experienced such a situation, please try to imagine such an event.) Here are number of reasons why he/she would do what you requested. Read each of these reasons carefully and decide how likely it would be the reason why he/she would comply with you in such an instance. Indicate how likely it would be the reason by selecting the appropriate number (1 to 7) and write it to the left of the statement.

Extremely unlikely	1
Unlikely	2
Somewhat unlikely	3
Neither unlikely nor likely	4
Somewhat likely	5
likely	6
Extremely likely	7

#### MY SUBORDINATE WOULD DO AS I REQUESTED BECAUSE

- (01PR) if he/she did so, then I would appreciate him/her more.
- (02PC) if he/she did NOT do so, then I would reject him/her personally.
- (03CP) I am a very influential person in the organisation and could determine how other people would behave toward him/her.
- (04EP) it was clear that I knew what was best, even if he/she did not understand.
- (05RP) as a person my subordinate liked me very much.
- (06IP) I provided him/her sufficient information in support of the requested change.
- (07IC) if he/she did NOT do so, then I might give extra work to him/her as punishment.
- (08IR) if he/she did so, then I might do something that would be beneficial him/her.
- (09CP) my contacts in the organisation could affect his/her future.
- (10FL) a supervisor is entitled to tell a subordinate to change his/her working procedure.
- (11RC) I had given him/her favours in the past, and he/she felt that he/she should reciprocate in this way.
- (12RS) he/she realised that I really needed his/her help in doing the job this way.
- (13EQ) I suffered a lot in the past due to his/her non-compliance, so he/she compensated it by complying this time.

- (14PR) if he/she did so, then I would have greater positive feelings toward him/her.
- (15IR) if he/she did so, then I might recommend for him/her a pay raise.
- (16IP) I carefully explained why the changes were necessary.
- (17IC) if he/she did NOT do so, then I might demote or recommend him/her for demotion.
- (18PC) if he/she did NOT do so, then I would have negative feelings toward him/her.
- (19EP) I am a well-trained and experienced person, and know better than my subordinate, what procedure to follow.
- (20EQ) his/her non-compliance created problems for me in the past, so he/she tried to recover this time.
- (21CP) my relation with others outside of the organisation has important implications for him/her.
- (22EQ) he/she always did the way he/she wanted in the past which troubled me, so he/she tried to recover this time.
- (23FL) I was authorised to give such orders and he/she was obliged to obey me.
- (24RS) he/she realised that it was very difficult for me to complete the job without his/her doing as I asked.
- (25PR) if he/she did so, then I would like him/her better.
- (26PC) if he/she did NOT do so, then I would disapprove of him/her.
- (27IP) once I pointed it out, he/she could see recommended procedure was really better.
- (28IC) if he/she did NOT do so, then I might recommend him/her for transfer to an unpleasant place.
- (29RP) I was a person with whom he/she identified and it was important to him/her to approach things the way I did.
- (30IR) if he/she did so, then I might recommend him/her for promotion.
- (31CP) how he/she is dealt with by others could be very much affected by me.
- (32EP) I had special knowledge of the specific issue relating to his/her work procedure.
- (33FL) I had the right to direct his/her activities.
- (34RC) I gave him/her favourable considerations in the past, so he/she felt obliged to do this for me now.
- (35RS) it was his/her duty to help me because it seemed that I really depended on him/her to do this job.
- (36EQ) his/her non-compliance caused difficulties to me, so he/she felt obliged to comply his time.
- (37IP) he/she could then understand a clear and logical reason for the change.

- (38CP) I have connections with influential persons outside the organisation.
- (39RC) I had done some good things for him/her in the past, so he/she returned that favour this time.
- (40PC) if he/she did NOT do so, then I would be angry with him/her.
- (41EP) I was more competent than my subordinate in judging the method of doing this particular job.
- (42RP) my subordinate and I had lot in common and it was important to him/her to see things as I saw them.
- (43IP) I had access to information that was valuable for him/her.
- (44IC) if he/she did NOT do so, then I might block his/her advancement (e.g., promotion).
- (45PR) if he/she did so, then I would have more positive regard toward him/her.
- (46IR) if he/she did so, then I could recommend him/her for some positive recognition or award.
- (47CP) I know how to please the higher ups in the organisation, and they would be important to him/her.
- (48FL) I had the right to expect that my suggestions would be carried out.
- (49RC) he/she could well remember how helpful I was in the past, so he/she felt obliged to me.
- (50RS) he/she felt that I would have difficulty carrying out my assignments without his/her helping out in this way.
- (51RP) I had his/her personal respect and it gave him/her satisfaction to see and doing things as I did.

## SECTION II -- EXCHANGE

In organisations, an individual works with different people. Working with others is a must to achieve the organisational goal(s). In this process, the individual may interact differently with different people and with one at a time. We want you to evaluate your interaction with your immediate subordinate \_\_\_\_\_ in terms of the following questions. Please read each question carefully and judge the degree to which it is true of the interaction between the two of you. Select the number of your choice (given below), and put it to the left of the statement in the space provided.

Not at all	1
Very little	2
A little	3
Some what	4
Quite a bit	5
A good deal	6
Very much	7

- (01L) How much would you defend each other's actions to a superior even without complete knowledge of the issue in question?
- (02A) How much liking do you have for each other?
- (03PC) How much responsibility does he/she take for the jobs that are to be done jointly by the two of you?
- (04A) How much affection do you have for each other?
- (05A) How much would you like to keep in touch with each other even if you are not working in the same organisation?
- (06L) How much would you protect each other if one of you is being criticised?
- (07PC) How much is his/her contribution to the quantity of solution on the jobs that are to be done together by the two of you?
- (08L) How much would you defend each other in the organisation if one of you made an honest mistake?
- (09A) how much importance do you attach to each other's advice on personal matters?
- (10PC) How efficient is his/her contribution to the jobs for which the two of you work together?
- (11A) How much do you help each other in personal matters?
- (12PC) How useful is his/her effort on the jobs that are to be done together by the two of you?
- (13L) How much would you come to guard each other if one of you were "attacked" by others?
- (14PC) How much time does he/she spend on the jobs that are to be done together by the two of you?
- (15A) How much do you interact with each other off the job?
- (16PC) How much initiative does he/she take in solving the problems that are to be done together by the two of you?
- (17L) How much loyal are you to each other?
- (18PC) How much is his/her contribution to the quality of solutions on the jobs that are to be done together by the two of you?

### SECTION III -- CONTROL

The following statements indicate your say or influence on your immediate subordinate \_\_\_\_\_ and vice versa. Please read each statement carefully and indicate the degree of influence for yourself and for your subordinate. Select the number of your choice (following the previous scale), and put it on the small line to the left of the statement.

- (01) How much say or influence do you have on what goes on in your two area?



- (02) How much say or influence does your subordinate have on what goes on in your work area?
- (03) How much say or influence should you have on what goes on in your work area?
- (04) How much say or influence should your subordinate have on what goes on in your work area?
- (05) How much do you change the opinion of your subordinate on what goes on in your work area?
- (06) How much does your subordinate change your opinion on what goes on in your work area?

#### SECTION IV -- PERFORMANCE

Please rate the performance of your subordinate \_\_\_\_\_ on the following items. Select the number of your choice, as given below, and put it on the small line to the left of the items.

Very low	1
Low	2
Below average	3
Average	4
Above average	5
High	6
Very High	7

- (01) Ability to Co-operate with co-workers
- (02) Ability to Communicate with others
- (03) Ability for planning and organising
- (04) Technical competence
- (05) Quality of work
- (06) Quantity of work
- (07) Ability to work independently
- (08) Motivation to work hard
- (09) Potential for promotion
- (10) Ability to get things done
- (11) Overall job performance

THANK YOU

## Appendix C

Table C1 Mean Scores and SDs for Reward Basis of Power at Different Levels of Degree of Control and Quality of Interaction

Quality of Interaction (Perceived Contribution)	Degree of Control	
	Low	High
Low	3.32 (1.16)	5.71 (1.05)
High	3.63 (0.88)	4.09 (1.66)

Table C2 Mean Scores and SDs for Legitimate Power at Reciprocity at Different Levels of Degree of Control and Quality of Interaction

Quality of Interaction		Degree of Control	
Perceived Contribution		Low	High
		Low	3.23 (1.31)
High	3.38 (0.53)	4.00 (1.92)	
Affect	Low	3.51 (1.23)	5.12 (1.86)
	High	3.59 (1.05)	3.94 (1.91)

Table C3 Mean Scores and SDs for Coercive Basis of Power at Different Levels of Degree of Control and Quality of Interaction

Degree of Control	Quality of Interaction (Perceived Contribution)	
	Low	High
Low	3.65 (1.57)	3.08 (0.58)
High	4.94 (0.67)	2.91 (1.50)

Table C4 Mean Scores and SDs for Credibility Basis of Power at Different Levels of Degree of Control and Quality of Interaction

Quality of Interaction		Degree of Control	
Perceived Contribution		Low	High
		Low	3.86 (1.23)
High	4.50 (0.14)	5.39 (1.05)	
Affect	Low	3.74 (1.49)	3.58 (1.35)
	High	5.87 (0.79)	5.23 (0.96)

Table C5 Mean Scores and SDs for Credibility Basis of Power at Different Levels of Climate and Quality of Interaction

Quality of Interaction (Affect)	Participative Climate	
	Low	High
Low	3.78 (1.37)	5.50 (0.38)
High	4.06 (1.77)	5.22 (0.87)

Table C6 Mean Scores and SDs for Compliance with Supervisor at Different Levels of Legitimate Power of Reciprocity and Coercive Power Basis

Coercive Power	Legitimate power of Reciprocity	
	Low	High
Low	4.50 (1.47)	6.32 (0.82)
High	5.25 (1.86)	5.79 (1.47)

Table C7 Mean Scores and SDs for Identification with Supervisor at Different Levels of Bases of Power and Quality of Interaction

Bases of Power		Quality of Interaction (Perceived Contribution)	
		Low	High
Reward	Low	2.81 (1.45)	6.44 (1.49)
	High	3.93 (1.86)	6.62 (0.51)
Reciprocity	Low	2.77 (1.73)	6.69 (0.63)
	High	5.00 (1.08)	6.29 (0.93)
Coercive	Low	2.72 (1.35)	6.60 (0.55)
	High	3.11 (1.41)	5.43 (0.98)

Table C8 Mean Scores for Identification with Supervisor at Different Levels of Coercive Power and Climate

Coercive power	Participative Climate	
	Low	High
Low	4.92 (2.08)	6.50 (0.56)
High	3.33 (1.97)	6.08 (0.93)

Table C9 Mean Scores and SDs for Internalisation with Supervisor at Different Levels of Reward Power and Quality of Interaction

Reward Power	Perceived Contribution		Affect	
	Low	High	Low	High
Low	3.53 (1.37)	6.17 (1.15)	3.80 (1.14)	5.67 (1.14)
High	4.07 (1.88)	6.38 (1.10)	5.29 (0.95)	5.95 (0.89)

Table C10 Mean Scores and SDs for Internalisation with Supervisor at Different Levels of Coercive Power and Quality of Interaction

Coercive power	Quality of Interaction (Perceived Contribution)	
	Low	High
Low	3.11 (1.29)	6.25 (0.89)
High	3.81 (1.51)	5.50 (0.91)

Table C11 Mean Scores and SDs for Performance of the subordinates at Different Levels of Coercive Power and Climate

Coercive power	Participative Climate	
	Low	High
Low	5.73 (1.67)	5.39 (0.97)
High	4.91 (0.97)	4.94 (0.72)

Table C12 Mean Scores and SDs for Performance of the subordinates at Different Levels of Legitimate Power of Reciprocity and Quality of Interaction

Legitimate Power of Reciprocity	Quality of Interaction (Perceived Contribution)	
	Low	High
Low	6.26 (1.12)	5.48 (0.38)
High	4.82 (0.00)	5.50 (0.79)

Table C13 Summary of ANOVA Results for Reward Basis of Power as a Function of Organisation Type (OT)

Source	SS	df	MS	F
A. Ownership of the Organisation	84.75	1	84.75	.88
B. Nature of the Organisation	17.70	1	17.70	.18
AB	431.92	1	431.92	4.49*
Within Cells	40828.62	424	96.29	

Note: \*p < .05

Table C14 Summary of Mean Comparison Results for Reward Basis of Power as a Function of Ownership and Nature of Organisation

Type of Organisation	PU M	PR M	PU S	PR S
PU M	32.83	33.40	34.71	36.23
PR M	-	.57	1.88	3.40*
PU S	33.40	-	1.31	2.83
PR S	34.71	-	-	1.52
PR S	36.23			

Note: PU= Public Organisations; PR= Private Organisations; M= Manufacturing Organisations; S= Service Organisations

\*p < .05

Table C15 Mean Legitimate Power of Reciprocity Scores and SDs as a Function of Ownership and Nature of Organisation

Nature of Organisation	Ownership of Organisation	
	Public	Private
Service	4.075 (1.47)	3.78 (1.61)
Manufacturing	3.94 (1.44)	4.19 (1.33)

Table C16 Summary of ANOVA Results for Legitimate Power of Reciprocity as a Function of Organisation Type (OT)

Source	SS	df	MS	F
A. Ownership of the organisation	.46	1	.46	.01
B. Nature of the Organisation	21.85	1	21.85	.68
AB	89.91	1	89.91	2.78
Within Cells	13710.65	424	32.34	

Table C17 Mean Coercive Basis of Power Scores and SDs as a Function of Ownership and Nature of Organisation

Nature of Organisation	Ownership of Organisation	
	Public	Private
Service	3.07 (1.12)	3.83 (1.46)
Manufacturing	3.56 (1.39)	3.56 (1.33)

Table C18 Summary of ANOVA Results for Coercive Basis of Power as a Function of Organisation Type (OT)

Source	SS	df	MS	F
A. Ownership of the Organisation	68.84	1	68.84	1.21
B. Nature of the Organisation	313.13	1	313.13	5.50**
AB	68.01	1	68.01	1.19
Within Cells	24135.52	424	56.92	

Note: \*\*p<. 01

Table C19 Mean Credibility Basis of Power Scores and SDs as a Function of Ownership and Nature of Organisation

Nature of Organisation	Ownership of Organisation	
	Public	Private
Service	5.09 (1.12)	5.03 (1.46)
Manufacturing	4.71 (1.39)	5.06 (1.11)

Table C20 Summary of ANOVA Results for Credibility Basis of Power as a Function of Organisation Type (OT)

Source	SS	df	MS	F
A. Ownership of the organisation	40.04	1	40.04	1.34
B. Nature of the Organisation	58.71	1	58.71	1.97
AB	83.05	1	83.05	2.78
Within Cells	12647.90	424	29.83	

Table C 21 Mean reward Basis of power Scores and SDs as a Function of Managerial Level (ML)

ML of the Subordinate	ML of the Supervisor	
	Middle	Top
Lower	4.27 (1.16)	4.35 (1.31)
Middle	4.21 (1.24)	4.31 (1.28)

Table C22 Summary of ANOVA Results for Reward Basis of Power as a Function of Managerial Level (ML)

Source	SS	df	MS	F
A. ML of the subordinate	72.91	1	72.91	.75
B. ML of the supervisor	2.26	1	2.26	.02
AB	343.45	1	343.45	3.53
Within Cells	41216.15	424	97.21	

Table C 23 Summary of ANOVA Results for Legitimate Power of Reciprocity as a Function of Managerial Level (ML)

Source	SS	df	MS	F
A. ML of the subordinate	.91	1	.91	.03
B. ML of the supervisor	10.33	1	10.33	.32
AB	162.51	1	162.51	5.05*
Within Cells	13658.05	424	32.21	

Table C 24 Summary of Mean Comparison Results for Legitimate Power of reciprocity as a Function of Managerial Level (ML) of the Supervisor and the Subordinate

Managerial Level of the Supervisor and the subordinate	mT	LM	LT	mM
	15.60	15.94	17.35	17.82
MT	15.60	-	.34	1.75
LM	15.94	-	-	1.41
LT	17.35	-	-	.47
MM	17.82			

Note: m and L = middle and lower managerial level of the subordinate; M and T = middle and top managerial level of the supervisor

\*p < .05

Table C 25 Summary of ANOVA Results for Coercive Basis of Power as a Function of Managerial Level (ML)

Source	SS	df	MS	F
A. ML of the subordinate	.86	1	.86	.02
B. ML of the supervisor	135.06	1	135.06	2.38
AB	465.73	1	465.73	8.20**
Within Cells	24074.13	424	56.78	

Note: \*\*p < .01

Table C 26 Summary of Mean Comparison Results for Coercive Basis of Power as a Function of Managerial Level (ML) of the Supervisor and the Subordinate

Managerial Level of the Supervisor and the subordinate		mT	LM	LT	mM
		19.08	20.80	22.27	23.64
mT	19.08	-	1.72	3.19*	4.56**
LM	20.80	-	-	1.47	2.84
LT	22.27	-	-	-	1.37
mM	23.64				

Note: m and L = middle and lower managerial level of the subordinate; M and T = middle and top managerial level of the supervisor

\*\*  $p < .01$ . \*  $p < .05$

Table C 27 Mean Credibility Basis of power Scores and SDs as a Function of Managerial Level (ML)

ML of the Subordinate	ML of the Supervisor	
	Middle	Top
Lower	4.77 (1.14)	4.88 (1.10)
Middle	5.26 (0.91)	4.85 (1.25)

Table C28 Summary of ANOVA Results for Credibility Basis of Power as a Function of Managerial Level (ML)

Source	SS	df	MS	F
A. ML of the subordinate	11.53	1	11.53	.39
B. ML of the supervisor	92.55	1	92.55	3.13
AB	119.44	1	119.44	4.04
Within Cells	12544.31	424	29.59	



## Appendix D

Table D1 Summary of MANOVA results for compliance with supervisor

Source	SS	df	MS	F
A (Sex sup.)	20.50	1	20.50	1.06
B (Sex sub.)	58.46	1	58.46	3.01
AB	14.74	1	14.74	.76
Sub.W group	1726.78	89	19.40	
C (BP)	140.31	11	12.76	8.59**
AC	25.52	11	2.31	1.56
BC	45.60	11	4.15	2.79**
B at c1	.408	1	.41	.02
B at c2	.05	1	.05	.002
B at c3	5.38	1	5.38	.28
B at c4	4.19	1	4.19	.22
B at c5	1.06	1	1.06	.05
B at c6	1.59	1	1.59	.08
B at c7	30.67	1	30.67	1.58
B at c8	15.55	1	15.55	.81
B at c9	25.89	1	25.89	1.33
B at c10	12.28	1	12.28	.63
B at c11	6.19	1	6.19	.32
B at c12	1.34	1	1.34	.06
C at b1	34.83	11	3.17	2.14*
C at b2	150.94	11	13.72	9.27**
ABC	19.29	11	1.75	1.18
C*Sub. W. group	1453.79	979	1.48	

Note: BP = Bases of power; Sex sup = Sex of supervisor; Sex sub = Sex of subordinate; b1= Male subjects; b2 = Female subjects; c1 = Impersonal reward power; c2 = Personal reward power; c3 = Impersonal coercive power; c4 = Personal coercive power; c5 = Expert power; c6 = Information power; c7 = Referent power; c8 = Connection power; c9 = Formal legitimacy; c10 = Legitimate power of reciprocity; c11 = Legitimate power of equity; c12 = Legitimate power of responsibility. .

\*\* p < .01, \* p < .05.

Table D 2 Summary of Results of Tukey H.S.D. for compliance as a function of bases of power

	FL 4.50	EQU 4.69	REC 4.86	CP 4.89	PRP 5.23	REF 5.25	IRP 5.33	IP 5.33	ICP 5.36	EP 5.36	PCP 5.48	RES 5.62
4.50	-	.19	.36	.39	.73**	.75**	.83**	.83**	.86**	.86**	.98**	1.12**
4.69	-	-	.17	.20	.54	.56	.64*	.64*	.67**	.67**	.79**	.93**
4.86	-	-	-	.03	.37	.39	.47	.47	.50	.50	.62*	.76**
4.89	-	-	-	-	.34	.36	.44	.44	.47	.47	.59*	.73**
5.23	-	-	-	-	-	.02	.10	.10	.13	.13	.25	.39
5.25	-	-	-	-	-	-	.08	.08	.11	.11	.23	.37
5.33	-	-	-	-	-	-	-	.00	.03	.03	.15	.29
5.33	-	-	-	-	-	-	-	-	.03	.03	.15	.29
5.36	-	-	-	-	-	-	-	-	-	.00	.12	.29
5.36	-	-	-	-	-	-	-	-	-	-	.12	.29
5.48	-	-	-	-	-	-	-	-	-	-	-	.14
5.62	-	-	-	-	-	-	-	-	-	-	-	-

Note: FL = Formal Legitimacy; EQU = Legitimate power of equity; REC = Legitimate power of reciprocity; CP = Connection power; PRP = Personal reward power; REF = Referent power; IRP = Impersonal reward power; IP = Information power; ICP = Impersonal coercive power; EP = Expert power; PCP = Personal coercive power; RES = Legitimate power of responsibility.

\*\*  $p < .01$ , \*  $p < .05$ .

Table D3 Summary of MANOVA results for Importance of Surveillance

Source	SS	df	MS	F
A (Sex sup.)	3.58	1	3.58	.14
B (Sex sub.)	4.08	1	4.08	.16
AB	3.15	1	3.15	.12
Sub.W group	2268.43	89	25.49	
C (BP)	270.60	11	24.60	12.96**
AC	19.63	11	1.78	.94
BC	46.80	11	4.25	2.24**
B at c1	12.10	1	12.10	.47
B at c2	5.65	1	5.65	.22
B at c3	.21	1	.21	.008
B at c4	.36	1	.36	.014
B at c5	.89	1	.89	.03
B at c6	17.30	1	17.30	.68
B at c7	2.85	1	2.85	.111
B at c8	2.93	1	2.93	.114
B at c9	1.05	1	1.05	.041
B at c10	2.87	1	2.87	.113
B at c11	3.85	1	3.85	.15
B at c12	1.55	1	1.55	.06
C at b1	108.37	11	9.85	5.19**
C at b2	208.65	11	18.97	9.98**
ABC	29.07	11	2.64	1.39
C*Sub. W. group	1858.77	979	1.90	

Note: BP = Bases of power; Sex sup = Sex of supervisor; Sex sub = Sex of subordinate.

b1 = Male subjects; b2 = Female subjects; c1 = Impersonal reward power; c2 = Personal reward power; c3 = Impersonal coercive power; c4 = Personal coercive power; c5 = Expert power; c6 = Information power; c7 = Referent power; c8 = Connection power; c9 = Formal legitimacy; c10 = Legitimate power of reciprocity; c11 = Legitimate power of equity; c12 = Legitimate power of responsibility.

\*\*  $p < .01$ , \*  $p < .05$ .

Table D4 Summary of Results of Tukey H.S.D. for Surveillance as a function of bases of power

	FL 3.01	EQU 3.28	REC 3.31	PCP 3.38	ICP 3.42	CP 3.50	IRP 3.73	PRP 4.11	REF 4.19	EP 4.30	RES 4.45	IP 4.57
3.01	-	.27	.30	.37	.41	.49	.72*	1.1**	1.18**	1.29**	1.44**	1.56**
3.28	-	-	.03	.10	.14	.22	.45	.83**	.91**	1.02**	1.17**	1.29**
3.31	-	-	-	.07	.11	.19	.42	.80**	.88**	.99**	1.14**	1.26**
3.38	-	-	-	-	.04	.12	.35	.73*	.81**	.92**	1.07**	1.19**
3.42	-	-	-	-	-	.08	.31	.69*	.80**	.95**	1.03**	1.15**
3.50	-	-	-	-	-	-	.23	.61	.69*	.80**	.95**	1.07**
3.73	-	-	-	-	-	-	-	.38	.46	.57	.72*	.84**
4.11	-	-	-	-	-	-	-	-	.08	.19	.34	.46
4.19	-	-	-	-	-	-	-	-	-	.11	.26	.38
4.30	-	-	-	-	-	-	-	-	-	-	.15	.27
4.45	-	-	-	-	-	-	-	-	-	-	-	.12
4.57	-	-	-	-	-	-	-	-	-	-	-	-

Note: The higher mean scores indicate less importance of surveillance

FL = Formal Legitimacy; EQU = Legitimate power of equity; REC = Legitimate power of reciprocity; CP = Connection power; PRP = Personal reward power; REF = Referent power; IRP = Impersonal reward power; IP = Information power; ICP = Impersonal coercive power; EP = Expert power; PCP = Personal coercive power; RES = Legitimate power of responsibility.

\*\*  $p < .01$ , \*  $p < .05$ .

Table D5 Summary of MANOVA results for identification with supervisor

Source	SS	df	MS	F
A (Sex sup.)	3.33	1	3.33	.25
B (Sex sub.)	4.77	1	4.77	.36
AB	.99	1	.99	.07
Sub.W group	1182.52	89	13.29	
C (BP)	1029.84	11	93.62	49.52**
AC	30.26	11	2.75	1.46
BC	64.10	11	5.83	3.08**
B at c1	.89	1	.89	.07
B at c2	3.81	1	3.81	.29
B at c3	.063	1	.06	.004
B at c4	2.08	1	2.08	.16
B at c5	.49	1	.49	.04
B at c6	8.09	1	8.09	.61
B at c7	9.31	1	9.31	.70
B at c8	25.59	1	25.59	1.93
B at c9	.62	1	.62	.05
B at c10	16.71	1	16.71	1.26
B at c11	.79	1	.79	.06
B at c12	.19	1	.99	.07
C at b1	453.89	11	41.26	21.83**
C at b2	629.81	11	57.26	30.29**
ABC	22.55	11	2.05	1.08
C*Sub. W. group	1850.75	979	1.89	

Note: BP = Bases of power; Sex sup = Sex of supervisor; Sex sub = Sex of subordinate.

b1= Male subjects; b2 = Female subjects; c1 = Impersonal reward power; c2 = Personal reward power; c3 = Impersonal coercive power; c4 = Personal coercive power; c5 = Expert power; c6 = Information power; c7 = Referent power; c8 = Connection power; c9 = Formal legitimacy; c10 = Legitimate power of reciprocity; c11= Legitimate power of equity; c12 = Legitimate power of responsibility. .

\*\* p < .01, \* p < .05.

Table D6 Summary of Results of Tukey H.S.D. for identification with supervisor as a function of bases of power

	PCP 2.32	ICP 2.39	FL 2.76	EQU 2.85	CP 3.09	REC 3.23	IRP 4.17	RES 4.51	PRP 4.69	RF 4.87	IP 5.01	EP 5.02
2.32	-	.07	.44	.53	.77**	.91**	1.85**	2.19**	2.37**	2.55**	2.69**	2.70**
2.39	-	-	.37	.46	.70**	.84**	1.78**	2.12**	2.30**	2.48**	2.62**	2.63**
2.76	-	-	-	.09	.33	.47	1.41**	1.75**	1.93**	2.11**	2.25**	2.26**
2.85	-	-	-	-	.24	.38	1.32**	1.66**	1.84**	1.78**	2.16**	2.17**
3.09	-	-	-	-	-	.14	1.08**	1.42**	1.60**	1.78**	1.92**	1.93**
3.23	-	-	-	-	-	-	.94**	1.28**	1.46**	1.64**	1.78**	1.79**
4.17	-	-	-	-	-	-	-	.34	.52	.70*	.84**	.85**
4.51	-	-	-	-	-	-	-	-	.18	.36	.50	.51
4.69	-	-	-	-	-	-	-	-	-	.18	.32	.33
4.87	-	-	-	-	-	-	-	-	-	-	.14	.15
5.01	-	-	-	-	-	-	-	-	-	-	-	.01
5.02	-	-	-	-	-	-	-	-	-	-	-	-

Note: FL = Formal Legitimacy; EQU = Legitimate power of equity; REC = Legitimate power of reciprocity; CP = Connection power; PRP = Personal reward power; REF = Referent power; IRP = Impersonal reward power; IP = Information power; ICP = Impersonal coercive power; EP = Expert power; PCP = Personal coercive power; RES = Legitimate power of responsibility.

\*\* p < .01. \*p < .05.

Table D7 Summary of MANOVA results for internalisation with supervisor

Source	SS	df	MS	F
A (Sex sup.)	5.72	1	5.72	.26
B (Sex sub.)	21.78	1	21.78	.10
AB	24.96	1	24.96	.006
Sub.W group	1941.78	89	21.82	
C (BP)	460.55	11	41.87	26.08**
AC	30.36	11	2.73	1.70
BC	44.28	11	4.03	2.50*
B at c1	.19	1	.19	.008
B at c2	2.34	1	2.34	.11
B at c3	3.56	1	3.56	.16
B at c4	1.89	1	1.89	.09
B at c5	.52	1	.52	.02
B at c6	1.09	1	1.09	.05
B at c7	8.39	1	8.39	.38
B at c8	9.73	1	9.73	.45
B at c9	12.46	1	12.46	.57
B at c10	26.15	1	26.15	1.19
B at c11	.44	1	.44	.02
B at c12	.146	1	.146	.006
C at b1	152.43	11	13.86	8.61**
C at b2	252.32	11	32.02	19.89**
ABC	22.74	11	2.07	1.29
C*Sub. W. group	1571.72	979	1.61	

Note: BP = Bases of power; Sex sup = Sex of supervisor; Sex sub = Sex of subordinate.

b1= Male subjects; b2 = Female subjects; c1 = Impersonal reward power; c2 = Personal reward power; c3 = Impersonal coercive power; c4 = Personal coercive power; c5 = Expert power; c6 = Information power; c7 = Referent power; c8 = Connection power; c9 = Formal legitimacy; c10 = Legitimate power of reciprocity; c11 = Legitimate power of equity; c12 = Legitimate power of responsibility. .

\*\* p < .01, \* p < .05.

Table D8 Summary of Results of Tukey H.S.D. for internalisation with supervisor as a function of bases of power

	FL 2.98	CP 3.12	PCP 3.19	ICP 3.28	REC 3.37	EQU 3.46	IRP 3.81	RES 4.05	REF 4.24	PRP 4.26	EP 4.71	IP 5.03
2.98	-	.14	.21	.30	.39	.48	.83**	1.07**	1.26**	1.28**	1.73**	2.05**
3.12	-	-	.07	.16	.25	.34	.69**	.93**	1.12**	1.14**	1.59**	1.91**
3.19	-	-	-	.09	.18	.27	.62*	.86**	1.05**	1.07**	1.52**	1.84**
3.28	-	-	-	-	.09	.18	.53	.77**	.96**	.98**	1.43**	1.75**
3.37	-	-	-	-	-	.09	.44	.68*	.87**	.89**	1.34**	1.66**
3.46	-	-	-	-	-	-	.35	.59	.78**	.80**	1.25**	1.57**
3.81	-	-	-	-	-	-	-	.24	.43	.45	.90**	1.22**
4.05	-	-	-	-	-	-	-	-	.19	.21	.66*	.98**
4.24	-	-	-	-	-	-	-	-	-	.02	.47	.79**
4.26	-	-	-	-	-	-	-	-	-	-	.45	.77**
4.71	-	-	-	-	-	-	-	-	-	-	-	.32
5.03	-	-	-	-	-	-	-	-	-	-	-	-

Note: FL = Formal Legitimacy; EQU = Legitimate power of equity; REC = Legitimate power of reciprocity; CP = Connection power; PRP = Personal reward power; REF = Referent power; IRP = Impersonal reward power; IP = Information power; ICP = Impersonal coercive power; EP = Expert power; PCP = Personal coercive power; RES = Legitimate power of responsibility.  
 \*\* p < .01, \* p < .05



Table D9 Summary of MANOVA results for liking for supervisor

Source	SS	df	MS	F
A (Sex sup.)	.26	1	.26	.02
B (Sex sub.)	.053	1	.053	.004
AB	.15	1	.15	.01
Sub.W group	1074.35	89	12.07	
C (BP)	1065.73	11	96.88	53.42**
AC	48.34	11	4.39	2.42*
A at c1	.053	1	.053	.004
A at c2	4.40	1	4.40	.36
A at c3	11.96	1	11.96	.99
A at c4	7.75	1	7.75	.64
A at c5	11.01	1	11.01	.91
A at c6	3.45	1	3.45	.29
A at c7	.29	1	.29	.02
A at c8	5.17	1	5.17	.43
A at c9	1.05	1	1.05	.09
A at c10	2.39	1	2.39	.19
A at c11	.02	1	.02	.001
A at c12	1.05	1	1.05	.09
C at a1	714.69	11	64.97	35.89
C at a2	399.29	11	36.29	20.05
BC	57.13	11	5.19	2.86*
B at c1	1.22	1	1.22	.10
B at c2	.77	1	.77	.06
B at c3	.22	1	.22	.02
B at c4	7.29	1	7.29	.60
B at c5	.97	1	.97	.08
B at c6	3.18	1	3.18	.26
B at c7	13.90	1	13.90	1.15
B at c8	14.79	1	14.79	1.23
B at c9	.54	1	.54	.04
B at c10	20.23	1	20.23	1.68
B at c11	1.11	1	1.11	.09
B at c12	.45	1	.45	.04
C at b1	519.27	11	47.21	26.08**
C at b2	603.19	11	54.84	30.29**
ABC	30.72	11	2.79	1.54
C*Sub. W. group	1775.71	979	1.81	

Note: BP = Bases of power; Sex sup = Sex of supervisor; Sex sub = Sex of subordinate; a1 = Male supervisor; a2 = Female supervisor; b1 = Male subject; b2 = Female subjects;  
c1 = Impersonal reward power; c2 = Personal reward power; c3 = Impersonal coercive power; c4 = Personal coercive power; c5 = Expert power; c6 = Information power; c7 = Referent power; c8 = Connection power; c9 = Formal legitimacy; c10 = Legitimate power of reciprocity; c11 = Legitimate power of equity; c12 = Legitimate power of responsibility. . \*\* p < .01, \* p < .05.

Table D10 Summary of Results of Tukey H.S.D. for liking for Supervisor as a function of bases of power

	PCP	ICP	FL	EQU	CP	REC	IRP	PRP	RES	EP	REF	IP
	2.22	2.51	2.59	2.76	2.81	3.29	4.09	4.68	4.69	4.79	4.95	5.04
2.22	-	.29	.28	.54	.59	1.07**	1.87**	2.46**	2.47**	2.57**	2.73**	2.82**
2.51	-	-	.08	.25	.30	.78**	1.58**	2.17**	2.18**	2.28**	2.44**	2.53**
2.59	-	-	-	.17	.22	.70*	1.50**	2.09**	2.10**	2.20**	2.36**	2.45**
2.76	-	-	-	-	.05	.53	1.33**	1.92**	1.93**	2.03**	2.19**	2.28**
2.81	-	-	-	-	-	.48	1.28**	1.87**	1.88**	1.98**	2.14**	2.23**
3.29	-	-	-	-	-	-	.80**	1.39**	1.40**	1.50**	1.66**	1.75**
4.09	-	-	-	-	-	-	-	.59	.60	.70*	.86*	.95**
4.68	-	-	-	-	-	-	-	-	.01	.11	.27	.36
4.69	-	-	-	-	-	-	-	-	-	.01	.26	.35
4.79	-	-	-	-	-	-	-	-	-	-	.16	.25
4.95	-	-	-	-	-	-	-	-	-	-	-	.09
5.04	-	-	-	-	-	-	-	-	-	-	-	-

Note: FL = Formal Legitimacy; EQU = Legitimate power of equity; REC = Legitimate power of reciprocity; CP = Connection power; PRP = Personal reward power; REF = Referent power; IRP = Impersonal reward power; IP = Information power; ICP = Impersonal coercive power; EP = Expert power; PCP = Personal coercive power; RES = Legitimate power of responsibility.

\*\* $p < .01$ . \* $p < .05$ .

